

**Personal guide for:**

**Email:** Product category: glasstec.02 - Glass processing and finishing



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glasstec

INTERNATIONAL TRADE FAIR FOR GLASS  
PRODUCTION • PROCESSING • PRODUCTS

solarpeq

INTERNATIONAL TRADE FAIR  
FOR SOLAR PRODUCTION EQUIPMENT

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## Exhibitors

### A.W.T. World Trade Inc.

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#### Product Overview

A.W.T. World Trade Inc.

glasstec.02.03.08.01.01 Screen printing techniques

glasstec.02.03.08.01.02 Screen washing machine

glasstec.02.03.08.01.03 Plants for screen de-laminating

glasstec.02.03.08.01.04 Other screen printing machines

#### Product Details

A.W.T. World Trade Inc.

glasstec.02.03.08.01.01 Screen printing techniques

#### Jet-Stream E-series

Heating chamber utilizes a preheat system with "bump" high energy quartz tubes. Large volumes of air, jet air knives and high efficiency heat panels provide the most efficient curing of evaporative inks and coatings Solid state independent temperature controls to up to 350°F (177°C). Higher temperatures available Air flow system removes solvents or water while creating a negative air force to hold stock down on the conveyor Fresh air is delivered to the chamber in a steady, adjustable volume with up to 90% recycling New Remote Diagnostics For Instant Service Stock is held in place on the variable speed Fiberlon™ conveyor belt. No fluttering Re-circulating hoods on front and rear of dryer keep shop environment clean Printed material is stabilized by the introduction of ambient air in the chamber Easy to access and service State-of-the-art safety system including restricted air flow alarm in case of clogged filters. Clean up easily with permanent stainless steel air filters Adjustable inlet to drying chamber for different thicker substrates and for heat retention Even heat distribution Digital speed belt readout Double wall construction to keep heat in and outside surface cool to the touch Modular expandable design Meets and exceeds US and international safety requirements Ambient temperature cooling chamber



#### S-912M

Adjustable Stroke Solid State 1-15 Second Dwell 5 Digit Reset Counter Adjustable Dwell Position Caster Base for Easy Mobility Plastic Squeegee and Aluminum Flood Bar Variable Cycle Speeds Maintenance Free, Heavy Duty Rotron Vacuum (S-912T only) Micro Register Rear Screen Frame Clamp (S-912T only) Formica Laminated Vacuum Printing Surface (except S-912T which has 24" dia. Rotary Table) Up-Front Control Panel Provides Total Operator Convenience



#### Standart Grade

Manufactured with the professional screen printer in mind, A.W.T.'s units are used for proto-typing, short runs and are ideal for training. The low cost units are made with kiln dried, non-warp frame lumber, a high quality squeegee blade with contoured handle, wood base and side-frame support. The frame is stretched

with the industry's best quality polyester fabrics. Many mesh counts are available.

glasstec.02.03.08.01.02 Screen washing machine

#### Pressure Washer

The Power-King<sup>TM</sup> pressure washers are an excellent addition to the Kleen-View<sup>TM</sup> washout sink. The two combine to give professional results. Power-King<sup>TM</sup> pressure washers are investments in productivity, with the power to significantly reduce screen cleaning and emulsion removal operations. The high-pressure directed spray will washout unexposed emulsion, hardened direct emulsions, blockouts and water-soluble films from polyester, stainless steel, nylon, silk or other common meshes. Both volume and pressure are controllable to adapt to varying job conditions. These units also are suitable for general purpose work around the shop. Heavy-duty Power-King<sup>TM</sup> pressure washers feature fan-cooled motors and heavy-duty housings.

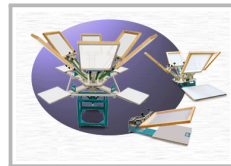
#### Washout Sink and Stand

A.W.T.'s Kleen-View<sup>TM</sup> Washout Sink and Stand is an essential component for maximizing screen room productivity. Designed for use with Power-King<sup>TM</sup> or other pressure cleaning units, Kleen-View<sup>TM</sup> washout stands are ideal for degreasing mesh, washing out emulsion or film and reclaiming screens. The translucent fiberglass back-panel utilizes daylight or artificial light sources to backlight screens, clearly showing pinholes, unexposed emulsion or residue. The extra-deep trough reduces back-splash, unit has built-in exhaust air duct. Heavy gauge stainless steel construction assures long life. Optional backlighting assembly is available at time of purchase only. Disassembles easily to fit through small doorways.

glasstec.02.03.08.01.04 Other screen printing machines

#### Manual T-Shirt Printers

\* Econo-Tex (Table & Floor Models) \* Spider-Tex \* Table-Tex Cap Printer Heavy-Duty Manual T-Shirt Printers \* American M&M Rototex Heat Transfer Machines \* Transfer Pro (Cap & T-shirt) Garment Numbering Press \* Digi-Tex AWT Automatic Textile Equipment Econo-Tex Automatic \* Air Indexer \* Servo Drive Indexer Print-Tex Automatic \* Servo Drive Indexer Automatic Textile Equipment \* American M&M X-Press \* American M&M Centurian \* AWT Auto-Tex Flash Cure Units \* Hot-Flash - Infrared \* Q-Flash - Quartz \* Slide-Flash - Infrared



#### Pro Light 1 Screen Exposing Units

High output U.V. spectrum light source with 60 watts per lamp provides significantly faster exposure time than that of black lights. These units are excellent for 4-color process, long runs and any extreme detail reproduction requirements. Quicker exposure time ( normally under 60 seconds depending on direct emulsion or capillary film). A.W.T.'s U.V. Spectrum lamps prevent undercutting during most applications. The Pro-Light 1 is complete with internal safety lights for viewing and setup. Digital timer is included.

#### Aachener Chemische Werke GmbH



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Stand	Hall 15, F48 (Page 648)

#### Product Overview

Aachener Chemische Werke GmbH

glasstec.01.02.03	Lubricators and coolants
glasstec.01.10.01	Optimization of glass cutting and glass production yield
glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.03.01.01	Grinding techniques for straight edges

glasstec.02.11.08.02 Chemical grinding and polishing materials

glasstec.02.11.08.03 Chemical coolants

glasstec.04.02 Cutting, grinding and drilling tools

### Product Details

Aachener Chemische Werke GmbH

glasstec.02.01.01.01 Cutting technology for float glass

#### ACECUT - Cutting fluids

The glass cutting process is an elementary step into glass processing. When cutting the float glass into jumbo sizes or when cutting the final cutsize the glass edge quality is decisive.

ACW - cutting fluids have been successfully used for over 40 years. Responding customer demands, the properties have been steadily improved in close cooperation with the leading manufactures of cutting tables and equipments.

ACW provides the following cutting fluids:

Washable cutting fluids

ACECUT 6000

Application : automotive glass , shape cutting (high quality demands), thick glass up to 25 mm.

ACECUT NT

Application : laminated glass (with thermal breaking) , hand cutting (even thick glass and models).

Evaporating cutting fluids

ACECUT 5503

Application : Standard product for cutting of insulated glass (coated glass), automotive glass, mirrors, general cutting up to 10 mm

We also provide cutting fluids with different evaporating times, specially developed to fit in your production process.

To find the best product for your process please get direct in contact with our sales department.

glasstec.02.11.08.02 Chemical grinding and polishing materials

#### ACEPOL F 210

ACEPOL F 210 ist ein hochwertiges Poliermittel auf Basis Ceriumoxyd für die maschinelle Facettenpolitur. Es zeichnet sich durch eine hohe Abtragsleistung sowie eine hohe Brillanz der polierten Oberfläche aus.

glasstec.02.11.08.03 Chemical coolants

#### ACECOOL – Coolants

Using only water or metal working fluids as a coolant is not sufficient to fulfil today's high demands in productivity, when processing glass with diamond tools.

Today fully synthetic coolants are used in glass processing machinery which are giving the following benefits:

Higher feed speed results in higher productivity  
Improved edge quality  
Increased life of diamond tools  
Lower power consumption of the processing machinery  
Protect the machinery from corrosion  
Keeps the sludge of the grinding solution soft  
Reducing maintenance costs  
ACW is offering a wide range of coolants for all different grinding operations and maintenance products for coolant systems.

### Adelio Lattuada S.r.l.



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Stand	Hall 16, F22 (Page 652)



**Company News**

Adelio Lattuada S.r.l.

**09/02/2010      Something new at Glasstec...**

The straight-line edging machines have always represented the core-business of our company, bringing us to develop a range which is now the widest on the market.



To the fair we will bring, among the others, two particularly interesting models: a TL 11 AV C and a TLR 13 AV C.

The TL 11 AV C can be defined as the top-model of our TL series, which has been completely renovated and enriched. Here after some news implemented on the machine:

- possibility to process thicknesses up to 50 mm.
- automatic device to support the operator when processing parallelogram-shaped glasses in an inclined position.
- machine's data and maintenance panel with which it is possible to manage the following functions: meter counter, machine's use statistics, maintenance operations warnings, machine's alarms, automatic oil pump.
- pneumatic clutch on the inlet conveyor to make the glasses load easier.
- oil system with end-of-the-line pressure sensor: a further safety in order to always guarantee the perfect functioning of the fundamental lubrication system.
- torque limiter in order to allow the two conveyors to work perfectly in-line and so to increase their lifetime.

The TLR 13 AV C instead, in addition to the above mentioned features, will also be equipped with:

- washing machine OT 300 on the outlet conveyor for the achieving of a complete cleaning and drying of the processed edges of the glass sheets.
- management of the speed and the transport through motoreducers with inverter.
- frontal regulation of the diamond and polishing spindles for the rear arris: the aim is always to help the operator who will have the possibility to save precious time when regulating the two arris wheels spindles not being obliged to perform it from the rear side of the machine.
- glass presence reading sensor with ultrasounds: guarantees of resistance, long working life, precision and total insensitivity to water and dirt.

- high efficiency motors (EFF1-IE2 standard): already from 2009 we offer the possibility to mount them on our machines, anticipating this way of years the future European rules which will oblige their use.

**Product Overview**

Adelio Lattuada S.r.l.

glasstec.02.03.01.01      Grinding techniques for straight edges

glasstec.02.10.01      Washing machines and equipment

**Product Details**

Adelio Lattuada S.r.l.

glasstec.02.03.01.01      Grinding techniques for straight edges

**AL 6 E**

Electronic straight-line edging machines for the processing of flat edge with arris.



All the wheels are fitted on spindles in order to allow an homogeneity of rotation and to avoid vibrations. The spindle has strong frame, the rotating shaft is assembled on ball bearings in order to guarantee a perfect alignment. The mechanical seal, an essential element of the spindle, is obtained thanks to the application of diaphragms. The conveyors slide on guides of hardened and rectified steel. In order to avoid the wheels wear and tear, a centralized lubrication system is fitted. The conveyor is composed by pads, made of a special material, which are mounted on precision chains. Pneumatic glass clamping system. The polishing wheels intervention is automatic because it is controlled by a PLC. All the wheels are cooled by coolant pumped from the coolant tank under pressure. The arris wheels automatically adjust with the change of the glass sheet thickness.

**COMBI 10**

Straight-line edging/bevelling machines for the simultaneous processing of flat edge and bevel polished with liquid cerium oxide in one single passage.



This machine is indicated for small glaziers with a diversified production. The first section of the machine, devoted to the bevelling, is composed by 1 diamond wheel, 2 resin wheels and 1 felt. The second section of the machine devoted to the grinding, is composed by 2 diamond wheels, 2

arris wheels and 2 polishing wheels.

### GAMMA 10

Straight-line bevelling machine for the processing of the bevel polished by liquid cerium oxide.



Available both with electronic system and PC. This machine, conceived in order to satisfy the medium productions, is equipped with all the devices that are necessary to simplify its use and maintenance. Thanks to read outs placed on the control panel it is possible to set adjustments 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 an homogeneity of rotation and to avoid the vibrations; the movement is transmitted thanks to toothed belts linked to the engines. The mechanical seal, an essential element of the spindle, is obtained thanks to the application of diaphragms. The conveyor is composed by pads, made of a special material, which are mounted on precision chains.

### TLR 16 AV C

Electronic straight-line edging machine for the processing of flat edge with arris and variable angle from 0 up to 45° in one single passage, polished by liquid cerium oxide.



Thanks to read outs placed on the control panel it is possible to set adjustments as glass thickness, working speed, miter inclination and edge thickness. The conveyors slide on guides of hardened and rectified steel. In order to avoid the guides wear and tear, an automatic centralized lubrication system is fitted. The conveyor is composed by pads, made of a special material, which are mounted on precision chains. Mechanic glass clamping system. The polishing wheels intervention is automatic because it is controlled by a PLC. The arris wheels automatically adjust with the change of the glass sheet thickness. Adjustable inlet conveyor with which it is possible to adjust the glass removal up to 5 mm. Low voltage control panel (24V). All the electrical components are in accordance with CE and international standards.

glasstec.02.10.01 Washing machines and equipment

#### Waschmaschinen - OT 1600/200/4S

Nach oben offene vertikale Wasch- und Trockenmaschine für Gläser mit einer Dicke von 3 bis 20 mm und einer Mindestabmessung von 350 mm.

Der Aufbau der Maschinen und alle Teile, welche in Kontakt mit Wasser kom-

men werden aus rostfreiem Stahl hergestellt, während ein Korrosionsschutz durch die Verwendung von Epoxy- und Polyurethan-Farben gewährleistet wird. Die Maschine besteht im Wesentlichen aus vier Bürsten, die auch in der Version für die Waschung von beschichtetem Glas mit geringem Emissionsgrad erhältlich sind. Auf Anfrage kann auch erhitztes Wasser verwendet werden. Die Trocknung erfolgt über ein Gebläsepaar, das von einem schallgedämpften Hochdruckventilator versorgt wird. Die Förderarme am Ein- und Auslauf sind ebenso wie die Einstellung der Glasstärke motorisiert und gewährleisten dadurch eine bessere Waschqualität bei jeder Glasstärke. Am Auslauf kann eine schwarze Platte mit Kontrolllichtern angebracht werden.

### ADI S.p.A.

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E-Mail	
Stand	Hall 16, D39 (Page 652)

#### Product Overview

ADI S.p.A.

glasstec.02.01.02	Glass saws
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass

glasstec.02.03.01.03 Grinding techniques for formed glass

glasstec.02.03.02.01 Decorative grinding technology for hollow glass

glasstec.02.11.01 Tools

glasstec.03.10.03.01.01 Grinding technology

glasstec.03.10.03.01.02 Grinding and polishing materials

**Product Details**

ADI S.p.A.

glasstec.02.03.01.01 Grinding techniques for straight edges

**Diamond wheels**

Segmented, half-segmented and continuous rim cup wheels straight and double edging machines.



**Diamond wheels**

Pencil edge and trapezoidal (flat and two aris) peripheral wheels for straight and double edging machines.



glasstec.02.03.01.02 Grinding techniques for patterned glass

**Diamond wheels**

Segmented, half-segmented and continuous rim cup wheels straight and double edging machines.



glasstec.02.03.02.01 Decorative grinding technology for hollow glass

**Diamond wheels**

Pencil edge and trapezoidal (flat and two aris) peripheral wheels for straight and double edging machines.



glasstec.02.11.01 Tools

Tools

**Diamond wheels**

Cup wheels for shape bevelling machines.



**AEG Power Solutions GmbH**

**AEG**

Power Solutions

Address	Emil-Siepmann-Str. 32 59581 Warstein-Belecke Germany
Phone	+49 2902 763216
Fax	+49 2902 7631201
Internet address	www.aeg.com
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Stand	Hall 11, E40 (Page 632)

### Product Overview

AEG Power Solutions GmbH

glasstec.01.04.08	Electrically heated systems
glasstec.01.09.03	Annealing lehrs, continuous/intermittent operation
glasstec.02.07.01	Machines and equipment for the production of display glass
glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)

### Product Details

AEG Power Solutions GmbH

glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
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#### Thyristor Power Controller - Thyro-Family

Our Experience for your Quality - worldwide

Industrial heating with Power Controller of the AEG Thyro-Family stands for quality, reliability, reproducibility, accuracy and communication capability as essential features of the future orientated Thyro-Family.

## AEROGAS GmbH

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Phone	+49 208 997739
Fax	+49 208 997741
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Stand	Hall 13, A33 (Page 640)

### Product Overview

AEROGAS GmbH

glasstec.01.02.02	Industrial gases
glasstec.02.11.04	Sealants
glasstec.02.11.08.01	Chemical drying equipment

### Product Details

AEROGAS GmbH

glasstec.02.11.08.01	Chemical drying equipment
----------------------	---------------------------

#### KRYPTON Gas Purity 99,999

Name:

Symbol:

Atomic number:

Molecular weight:

Group number:

Group name:

Period number:

CAS Registry ID:

UN1056 (gas); Krypton

Kr 36 83.8 g/mol 18

Rare gas 4 7439-90-9

UN1970 (liquid refrigerated)

Krypton is used in the fanciest, most energy-efficient double-pane insulated windows. Krypton is also used in certain fluorescent lamps and in a flash lamp employed in high-speed photography. Radioactive krypton-85 is useful for detecting leaks in sealed containers, with the escaping atoms detected by means of their radiation.

#### Molekularsieb AERODRY

Das Molekularsieb AERODRY - hochporöses Alumo-Silicat (Molekularsieb) mit einem Porendurchmesser von 3Å in Kugelform. Produktion

Unser Molekularsieb AERODRY wird aus europäischen Rohstoffen auf modernsten Anlagen produziert. Das aktuelle Produktionsvolumen beträgt 12.000 Tonnen pro Jahr. Die Produktionsmenge wird ausschließlich bei der Isolierglasproduktion in Europa verwendet. Wichtigste Merkmale:

\* Jedes Produkt wird auf einer eigenen Produktionsstraße hergestellt. Das sichert die Qualitätsstabilität. \* Durch unser einzigartiges Entstaubungsverfahren werden sehr niedrige Staubwerte erreicht. \* Die AERODRY - Produktionsstätte verfügt über zahlreiche, sehr leistungsfähige Tunnel-Ofen, was eine sehr niedrige Anfangsbeladung des Molekularsiebes sichert. \* Die über 5 m langen Siebanlagen machen die Partikelgröße sehr präzise.



### AGK Hochleistungswerkstoffe GmbH

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#### Product Overview

AGK Hochleistungswerkstoffe GmbH

glasstec.01.02.01	Refractory materials
glasstec.01.09.01	Transport systems
glasstec.01.09.02	Stacker systems
glasstec.02.11.02	Replacement and spare parts
glasstec.02.11.03	Insulating C203materials
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
glasstec.03.06.02	Braided wire hoses and straps made of fibreglass
glasstec.04.04	Replacement part, wearing parts

**Product Details**

AGK Hochleistungswerkstoffe GmbH

glasstec.02.11.02 Replacement and spare parts

**Faserzemente**

Faserzemente, Kalziumsilikate, Aluminiumsilikate und Glimmer halten Grenztemperaturen bis 1500°C stand. Sie bilden die kostengünstige Variante zu Keramiken und lassen sich zudem besser bearbeiten. AGK hat die verschiedensten Varianten im Angebot und legt ganz besonders Wert auf druckbeständige Werkstoffe.

glasstec.02.11.03 Insulating C203materials

**K-Therm®**

**K-Therm®**

**AKAR MAKINA SAN. TIC. LTD. STI**

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Stand	Hall 11, G39 (Page 632)

**Product Overview**

AKAR MAKINA SAN. TIC. LTD. STI

glasstec.02.09.04 Autoclaves

**Product Details**

AKAR MAKINA SAN. TIC. LTD. STI

glasstec.02.09.04 Autoclaves

**AUTOCLAVE**

Akar manufactures Glass Lamination autoclaves/chambers with various sizes depending on customers' unique requests. From the customer requirement acquisition stage to design, manufacturing, test, delivery and on-site commissioning, Akar is able to offer turn-key boutique solutions for every customer need around the world. In addition to the glass industry, Akar offers autoclaves and pressure vessels to the other industries where the machines are used. We manufacture our machines in our state-of-the-art manufacturing facilities meeting international quality standards such as ASME, PED, GOST and any other standards required.

**ALBAT+WIRSAM Software AG**



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**Company News**

ALBAT+WIRSAM Software AG

**08/17/2010 Minimum waste within an optimum production sequence:  
DynOpt Software from ALBAT+WIRSAM Optimizes Continuous-Flow Production**

Fully-automatically, in any desired sequence, A+W's DynOpt achieves highest material yield in the modern production environment. Steering state-of-the-art sorting and dynamic buffer systems like HEGLA SortJet and BYSTRONIC first'sort, DynOpt's flexible configuration can be implemented according to the requirements of any production operation, as a fully-automated, closed-circuit system on-line, or in combination with an intermediate buffer. Simple in concept, revolutionary in results: DynOpt reduces raw material input across the board, even eliminating residue plates completely with the most frequent glass types. Labor, too, is reduced to a minimum: only one operator is needed to oversee and support an entire optimization scheme. Within this constant stream of glass, the just-in-time handling of breakage and the integration of rush jobs are significantly improved. ALBAT+WIRSAM has finally tamed the high-waste factor in just-in-time production, and as a bonus, eased the accompanying job organization pressures which plague every modern glass facility today.



Photo below: A DynOpt/SortJet ensemble as seen from the break-out table: right, the DynOpt instruction monitor; left, the swivel conveyor; far left, the dynamic buffer; front left, a sheet being up-righted at the positioning guide

**08/17/2010 ALBAT+WIRSAM: Automation in the Glass Industry**

The speed at which glass processing machinery replaces manual processes by automatic ones, is truly breathtaking.

The useful these individual functions are: They are not enough to achieve the full saving potential. To use the new possibilities to the best effect, the entire process chain has to be adjusted to produce a constant flow of material, permitting quick reactions in case of emergency.



ALBAT+WIRSAM links the individual technologies in one interactive network. The elements in the cutting area for instance exchange information real-time with the components of the IG line. The material flow is adjusted real-time. This helps to achieve the original, actual aim of automation: A constant stream of

glass. Even for medium-sized companies, ALBAT+WIRSAM and their machinery partners achieve the feat to run IG productions with just 3-4 persons per shift – including float and laminated glass cutting. All machinery required for producing triple IG like sheet turning devices, are of course integrated in the networked control of the production environment. The staff of these companies do not carry sheets or stacks of papers – they control and monitor the production. ALBAT+WIRSAM realises similar automation processes in the field of toughened glass, laminated glass, and processing.

With this state-of-the-art production software, ALBAT+WIRSAM links the machinery of all the leading manufacturers. With ALBAT+WIRSAM as their partner, customers just choose the technologies best suited to him – we will take care of the networking!

ERP and order entry: Ready for new market requirements

ALFAK is a proven ERP system which has been improved and adapted all the time to our customer's needs. Its current version can handle triple IG – even multiple IG – the structure, layers etc. of which can of course be displayed. By popular request, the input of laminated glass has been improved: As for IG input, the structure is visualised by pictograms; changes of the product structure like the addition, removal, or amendment of glass or film layers are easily made in the bill of material; the same applies to the prices of the individual elements.

These are just a few of our highlights 2010 – we should be pleased to welcome you at the Glaston stand in hall 14, stand 14/B40

software@glaston.net www.a-w.de www.glaston.net

**08/17/2010 Five Questions Glass Processors should ask BEFORE investing in Integrated Software Technology**

Manufacturers are always looking for ways to improve efficiency & profits. Increased competition in the marketplace causes added stress amongst top managers to increase revenues in the most organized, cost effective way. How are top flat glass, window and door companies managing to increase production and overcome costly production deficits in their operations? They are turning towards new technology and investing in Integrated ERP /PPS Software Solutions and creating one central platform to control, organize, and maintain all aspects of their production flow from start to finish. Selecting the right software company for such a project is critical. It all boils down to doing your homework/research. First you must identify needs and the unique challenges your company faces. Then you need to evaluate the software solutions on the market



specifically for Glass Processing and Window +Door Manufacturing. Whichever company you select, they will become a life-long partner working directly with your business, assisting in automating your production processes; positioning your organization for future growth. The last thing you want is to spend thousands on a software system, only to find out later on that it does not meet your expectations or the comprehensive needs of your business. We encourage you to ask these 5 important questions when considering a software proposal: 1. Is the software you're evaluating a truly Integrated ERP /PPS Solution? This is the #1 question you should ask before investing time with a software company. Why? Because there are only a handful of companies on the market specialized in software solutions exclusively for Glass, Window + Door Manufacturing. You want a system that has your industry know-how behind it and is adaptable to the growing need of the industry.

Why is this important? You want to invest in a system that is flexible and can integrate with any other systems you are operating, avoiding having to reconfigure or spend hours on expensive staff training. The new system should be able to tie into any current system, support one-time entry of data (at order entry) for all subsequent applications, and circulate it continuously throughout all cells. Departments should be able to access information electronically at anytime, eliminating paper trails. Finally, you want the certainty of working on a single, Microsoft SQL based platform. 2. Who are the software developers? How financially sound is the company, and will they be around to take care of things if they go wrong? You're about to make a major investment in a complete ERP solution to maintain your company's flow of information and streamline your entire production operations. Shouldn't you know the company's history and be sure they have a sound knowledge of your industry? Ask about their track record, case studies and testimonials from satisfied clients. Schedule a live demonstration onsite. 3. What kind of technical support is offered? All software companies should have a highly qualified technical team to support clients through every step of the implementation process, and assist afterwards when needed. Technicians who know the software and communicate well with your team can quickly resolve problems and make sure all systems are properly functioning. 4. How long will the implementation process take? A successful ERP Solution installation is not completed in a matter of days. Be cautious if a company promises to do so! To implement a truly Integrated ERP system, it will take a few months at minimum, depending on the unique challenges you're facing. 5. How much does it cost? This question is very important when you're looking at a budget and ROI. Ask it! It's important that the vendor has a clear picture of your goals, needs and current operations. This will assist him in providing you with an accurate cost/ROI assessment. The more detailed the offer, the better you'll know that the software will fulfill your expectations. Beware of a vendor who offers you a system based solely on price, and not on the tasks the system is expected to do to secure your

company's future growth:

Choosing the right software system is like buying a car. Any one will get you from point A to point B. But, if you do a little homework in preparation, the system you ultimately choose will be reliable, save you money and grow with your enterprise. Everyone in the Glass Processing industry faces similar challenges. Do these still apply to you? A. Inefficient "paperwork" data flow B. High error rate at order entry and from dealers C. High waste, scrap and inventory costs D. Hit a plateau with new customers and dealer s E. A combination of any of the above If any of these problems are typical of your organization, you may want to consider evaluating some Integrated ERP and PPS Software vendors on the market, and develop a strategic plan for overcoming them. Many vendors offer free workshops and live demonstrations, so you can see their software capabilities first hand. Whether you're looking to upgrade your current software system or introduce your company to its first Integrated Software Solution, you are now 5 steps closer to streamlining your production processes and operation!

Link to our websites: [/www.a-w.de](http://www.a-w.de) [www.glaston.net](http://www.glaston.net)

#### **08/18/2010 High Tech Lego on the Magical Board: Composing and Visualising Production Environments Within Seconds**

No scrawled sketches on paper for visualising production environments, variants, and networked solutions: On the Glaston stand, ALBAT+WIRSAM is going to present a virtual construction kit containing modules such as machinery, elements, and IT tools for composing, rearranging, and re-inventing the desired solutions. With just a couple of movements and the right instinct we will 'build' a model of your production line, a layout for a production hall, or a complete project to work on together: moving elements, adding a transport belt, a label printer, a rotating device. Of course you can try it out yourself because it is not only useful but also a lot of fun – after a short training session you will feel just like Harry Potter. We are not going to tell you how exactly this works because it shall be a surprise after all. Just this: Visualisation has the size of a slide show, with high resolution, and true to scale. You want to bring your own Lego bricks? No problem. Just bring your technical drawings in JPEG or PDF format – we will adjust the scale and integrate your material. We shall be pleased to discuss the scenarios created as well as their possible realisation in a follow-up meeting at your premises. Be prepared for a completely new planning and visualisation experience – on the Glaston / AL-BAT+WIRSAM stand in hall 14, stand B 40.

[www.a-w.de](http://www.a-w.de) [www.glaston.net](http://www.glaston.net) [software@a-w.de](mailto:software@a-w.de)



**08/17/2010 In record time: Production control with ALCIM at SEMCOGLAS Glastechnik Nordhorn**

In record time: Production control with ALCIM at SEMCOGLAS Glastechnik Nordhorn May 2009: In Nordhorn, Sencoglas Glastechnik are producing toughened and laminated glass of the utmost production depth. The new, ultra modern processing machinery is meant for the production of safety glass units of up to 2,80 x 6 metres in size. Optimum quality combined with highest delivery capacity – the machinery is meant for the job, the staff is highly qualified. Still, the processes of this sophisticated production have to be controlled with utmost precision to ensure that the production machinery work in tune, down times are avoided, and all processes of this multi-step production are perfectly synchronised. Branch manager Stefan Herrmann says: „The workers are not supposed to run all over the place looking for information but shall be able to get the information they need for the present step right at their workplace.“ In the spring of 2009 it became clear that the software Sencoglas were using at that time could not cope with these requirements. The Sencoglas management team decided to make a radical cut: Sencoglas Glastechnik will introduce a software system for production planning and control that permits to establish a slim yet quick information network. In the fully networked environment, not only the production machinery shall be controlled online: According to the information philosophy defined by Stefan Herrmann, all necessary product and processing information shall be available online, displayed on monitors at all pre-processing machines, silk screening and coating lines, toughening furnaces, and laminated glass production.



After a thorough check of all available options, the decision was made for ALBAT + WIRSAM's production planning and control system ALCIM. Parallel with the production software, the ERP system ALFAK shall be implemented for administration and order processing, thus ensuring a smooth and reliable flow of information between administration and the shop floor.

Time is running out because the high-tech production shall run as soon as possible at full throttle. Together with the A+W partners, Sencoglas decided to embark on a demanding ‚lightning project‘: Within just three months, the complete ALCIM system including the information system ToolTV on all terminals and an overall capture of production data shall be implemented. In October, Sencoglas Glastechnik shall be working with only one type of production papers, with just a few exceptions: the label. Based on barcode registration, the sheet shape, layers, necessary processing steps – simply all necessary information will be clearly displayed at the terminal monitors.

Overall barcoding: This means also that by means of barcode-based sheet tracking, a sheet's processing state and whereabouts will be known at all times. The flow of goods and material is highly complex: It may take two to fifteen days (in extreme cases) for a sheet to pass all processing steps at Sencoglas Glastechnik. Customers asking ‚Where is my sheet?‘ have to get precise answers, every time they ask – customers can expect this service. Since Sencoglas Glastechnik registers every single processing step, this information is available all the time, even to the order entry staff.

October 2009: With a joint effort, Sencoglas and ALBAT+WIRSAM have made a precision landing. „On 1 October“, Stefan Herrmann states, „the system went online, and we have cut the first sheets with the help of the new software. It has been hard work up to that point, but from day one on we have been able to work. We have been able to cut glass and control all machines so that we could go on supplying our customers with sheets. In the months after that, we have fine-tuned the system and trained the users.“

Today, more than half a year into live operation, the branch manager of SEMCO Glastechnik recapitulates: „Except for minor details, 95% of the project have been implemented. The interaction and the ambitious implementation have paid off, and was even quite enjoyable.“

IT manager Stefan Bruns, close to the action at all times and in constant dialogue with software partner A+W: „We are close to the optimum! The cooperation is excellent. We have had no trouble at all. The communication is perfect. We are intensive and constant contact with Albat+Wirsam to make sure that the defined processes are actually being implemented and realised.“

Photo below: With just a few exceptions, this is the only production paper at Sencoglas Glastechnik: the label. It contains all information for identifying the sheet and track its way on the shop floor.

Product Overview		ALBAT+WIRSAM Software AG
glasstec.01.10.01	Optimization of glass cutting and glass production yield	
glasstec.02.13.02	Software	
glasstec.05.02.02	CNC control for handling machines	
glasstec.05.03.01	MRP/CAD/CIM systems	

glasstec.05.03.03	Optimization systems for cutting and yield
.....	
glasstec.05.03.04	Process control systems
.....	
glasstec.05.03.05	Other control systems

**Product Details**

ALBAT+WIRSAM Software AG

glasstec.02.13.02

Software

**ALBAT+WIRSAM Software for Glass**

ALBAT+WIRSAM Software for Glass 29.09.2008

- Fully-networked production control ALCIM: the wide scope of system modules can be fully integrated and span the entire production and optimization process, from job planning to just-in-time dispatch.
- Comprehensive order processing for the Glass Industry ALFAK: ERP, Bills of Material, Materials Management, instant customer information and order tracking, custom jobs and specs; integrated database and barcode management; full interface with all ALCIM production control modules.
- Synchronized, continuous stream dynamic cutting, sorting and optimization system DynOpt organizes processes for optimum material yield and rest plate recycling, in perfect production sequence.
- Web-based rack tracking & recovery system AWRack offers integrated order, inventory and logistics software.
- precise CNC calculation & calibration for drillings; custom & free-form shapes: the Virtual Digitizing module of the Shaping & Nesting system plans perfect templates and geometry with an ordinary digital camera.
- 3-D graphics monitoring program RackOpt graphically displays optimum packing load, specs and loading sequences automatically, before the run – saving time, labor, rack capacity and costs.



GLASTON SOFTWARE SOLUTIONS

**ALBAT+WIRSAM Software for Glass**

ALBAT+WIRSAM Software for Glass 29.09.2008

- Fully-networked production control ALCIM: the wide scope of system modules can be fully integrated and span the entire production and optimization process, from job planning to just-in-time dispatch.
- Comprehensive order processing for the Glass Industry ALFAK: ERP, Bills of Material, Materials Management, instant customer information and order tracking, custom jobs and specs; integrated database and barcode management; full interface with all ALCIM production control modules.
- Synchronized, continuous stream dynamic cutting,

sorting and optimization system DynOpt organizes processes for optimum material yield and rest plate recycling, in perfect production sequence.

- Web-based rack tracking & recovery system AWRack offers integrated order, inventory and logistics software.
- precise CNC calculation & calibration for drillings; custom & free-form shapes: the Virtual Digitizing module of the Shaping & Nesting system plans perfect templates and geometry with an ordinary digital camera.
- 3-D graphics monitoring program RackOpt graphically displays optimum packing load, specs and loading sequences automatically, before the run – saving time, labor, rack capacity and costs.

GLASTON SOFTWARE SOLUTIONS

**Allmetal GmbH**



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**Product Overview**

Allmetal GmbH

glasstec.02.11.05	Spacers
.....	
glasstec.03.02.03	Insulating glass
.....	
glasstec.03.02.04.03	Heat insulation glass

**Product Details**

Allmetal GmbH

glasstec.02.11.05 Spacers

**Edelstahl**



**ALU-PRO**

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Stand	Hall 16, C45 (Page 652)

**Product Overview**

ALU-PRO

glasstec.02.11.05 Spacers

**Product Details**

ALU-PRO

glasstec.02.11.05 Spacers

**DECORATIVE PROFILES**

**DOUBLE FACED SPACERS**

**SPACER BARS h=6,5**

**SPACER BARS h=8**

**Anglo Carbon**

Address	Waterloo Mills, Waterloo Road Pudsey LS28 8DQ United Kingdom
Phone	+44 113 2564664
Fax	+44 113 2571119
Internet address	www.protatherm.com
E-Mail	kevin@anglocarbon.com
Stand	Hall 13, E33 (Page 640)

**Product Overview**

Anglo Carbon

glasstec.02.11.02 Replacement and spare parts

**Product Details**

Anglo Carbon

glasstec.02.11.02 Replacement and spare parts

**Graphite Components**

In addition to moulds, crucibles and anodes, a diverse range of components are available to customer specifications predominantly for use in the aluminium and glass industries, such as furnace furniture, carbon 'plugs', bearings, plates, guides, dies and funnels.

## Angstrom Sciences, Inc.

ANGSTROM SCIENCES

Address	40 South Linden St. 15110 Duquesne, PA USA
Phone	+1 412 469-8466
Fax	+1 412 469-8511
Internet address	www.angstromsciences.com
E-Mail	dfine@angstromsciences.com
Stand	Hall 12, D34 (Page 636)

### Product Overview

Angstrom Sciences, Inc.

glasstec.02.06.01	Vacuum coating equipment
glasstec.02.06.08	Sputtering targets for glass coatings

### Product Details

Angstrom Sciences, Inc.

glasstec.02.06.01	Vacuum coating equipment
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### Angstrom Sciences' Custom Magnetrons

Angstrom Sciences offers a broad line of state-of-the-art magnetrons, with models to serve virtually every standard sputtering process in the industry.

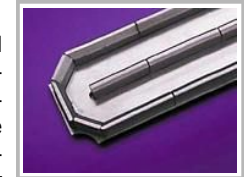
But we know that each application is different. So if you find that you have special requirements, please don't hesitate to call on us.

We not only have all the in-house capabilities necessary to design, engineer, and manufacture the most advanced magnetron technology in the world - we've developed our unique, modular approach specifically so that we can adapt to any situation you may encounter.



### Angstrom Sciences' Magnetron Retrofits

Angstrom Sciences, Inc. offers a way to get your old magnetron to run better than new in our latest Magnetron Retrofit Brochure. Angstrom Sciences is internationally known for the cutting-edge technology we bring to magnetron sputtering applications. We've developed a method of retrofitting your existing machinery with our patented profiled magnet design – bringing the Angstrom Advantage to your processes.



Retrofit your outdated sputtering equipment with Angstrom Sciences' patented profiled magnet assembly and your process will benefit from reduced downtime and increased target utilization and the drop in design provides fast and easy installation.

Our high-performance magnet retrofits are guaranteed to increase both efficiency and performance in any existing system.

### Angstrom Sciences' Sputtering Targets and Materials

Angstrom Sciences also offers a comprehensive selection of high-purity vacuum-deposition materials.

These are available in either prefabricated sputtering targets or bulk-form evaporation materials - and we manufacture wire, rods, electron-beam evaporation cones, and hearth liners, as well.

Using a variety of specialized processes (including hot pressing, vacuum sintering, hot/cold isostatic pressing, and vacuum melting), we can provide the kind of homogenous, fine-grained, high-density materials that conform to the strictest quality control.

The result is technically superior materials for all your thin film applications.

Angstrom Sciences also offers both backing plates and bonding services. We can manufacture a full range of target backing plates to either original equipment specifications or custom cathode dimensions.



### Magnetron Sputtering Sources

Angstrom Sciences, Inc. supplies high performance Magnetron Sputtering sources and materials for a wide variety of R&D and production applications. Patented designs permit high target utilization and deposition rates with uncompromised film quality.

Angstrom Sciences' magnetrons are recognized as the standard for thin film sputtering. In addition to their advanced features such as profiled magnets, turbulent water flow, and solid stainless steel construction, they offer a host of other performance efficiencies such as:

- Ultra Compact Design - Ideal For Retrofit Applications
- Easily Configured For Internal Or External Mounting
- Quick & Easy Target Changes
- Low Working Pressure
- High Deposition Rates
- Greater Target Utilization
- Greater Film Uniformity – routinely  $\pm 1$  to  $\pm 5$  % range
- Special Designs Allow for Ultra High Vacuum, Magnetic Target Materials and High Current Density Operation.



glasstec.02.06.08

Sputtering targets for glass coatings

### Sputtering Targets

From standard, single element materials to custom compounds, small circular to multi-tile and stepped constructions, commercial grade to ultra-high purities, Angstrom Sciences provides the highest quality magnetron sputtering target materials. We utilize a variety of specialized processing techniques such as hot pressing, hot isostatic pressing (HIP), cold isostatic pressing (CIP), induction vacuum melting, and vacuum casting to produce homogenous, fine-grained, high-density materials that conform to the strictest application standards.

All sputtering targets are cleaned, inspected, chemically-tested, and packed under inert gas for immediate use in your vacuum system.

Angstrom Sciences provides a full range of sputtering target materials including: precious metals, pure metals, alloys, ceramics, cermets, borides, oxides, carbides, nitrides, silicides, and fluorides.

Purities range from commercial grade (99.5%) to ultra high (99.9999%).

### AnHui YinRui Glass Machinery Co., Ltd

Address	Shanxiang Industry Park 233010 Bengbu City, Anhui Province China (Rep.)
Phone	+86 552 4923568
Fax	+86 552 4923598
Internet address	www.yrglass.com
E-Mail	xiaoling0552@163.com
Stand	Hall 12, B42 (Page 636)

### Product Overview

AnHui YinRui Glass Machinery Co., Ltd

glasstec.02.01.01.01 Cutting technology for float glass

### Product Details

AnHui YinRui Glass Machinery Co., Ltd

glasstec.02.01.01.01 Cutting technology for float glass

### glass cutting system



including loading machine, cutting machine and breaking machine. owning good technology, Italian software, structure designed by our engineer.

loading cycle:40s loading depth:750mm

cutting accuracy:0.2mm ; cutting speed:140m/min

the NO.1 enterprise to make the CNC full-auto glass cutting system in China.

### ANSUN Protective Metals, Inc.

Address	130 Lincoln Blvd. 08846 Middlesex, NJ USA
Phone	+1 732 302-0616
Fax	+1 732 302-9120
Internet address	www.ansunmetals.com
E-Mail	sales@ansunmetals.com
Stand	Hall 13, F69 (Page 640)

#### Product Overview

ANSUN Protective Metals, Inc.

glasstec.02.06.08     Sputtering targets for glass coatings

#### Product Details

ANSUN Protective Metals, Inc.

glasstec.02.06.08     Sputtering targets for glass coatings

#### Rolled Zinc Targets

Our zinc targets are made from ASTM B-6 SHG alloy. We use a proprietary continuous casting process to remove all gas bubbles and cooling voids. All our targets are serialized for traceability and are of the highest quality. We make custom targets per the specifications provided by our customers, this includes using custom alloys such as 2% aluminum. See our targets being milled.

### Antonini S.r.l.



Address	Via Medaglie d'Oro della Resistenza, 2 50053 Empoli / Florence Italy
Phone	+39 0571 93221
Fax	+39 0571 931828
Internet address	www.antoninisrl.com
E-Mail	antoninisrl@leonet.it
Stand	Hall 13, D20 (Page 640)

#### Product Overview

Antonini S.r.l.

glasstec.01.09.03     Annealing lehrs, continuous/intermittent operation

glasstec.01.09.04     Decorating lehrs

glasstec.01.09.05     Pre-heating furnaces

glasstec.01.12.02     Cold end coating

glasstec.02.11.01     Tools

**Product Details**

Antonini S.r.l.

glasstec.02.11.01 Tools

**Stackers e cross-converse**



**Arcotec GmbH**



Address	Rotweg 24 71297 Mönsheim Germany
Phone	+49 7044 9212-0
Fax	+49 7044 9212-12
Internet address	www.arcotec.com
E-Mail	info@arcotec.com
Stand	Hall 12, F42 (Page 636)

**Product Overview**

Arcotec GmbH

glasstec.02.03.08.03 Pad printing technology

glasstec.04.10 Adhesive technology

**Product Details**

Arcotec GmbH

glasstec.02.03.08.03 Pad printing technology

**Testtinten**

Bei den Testtinten (ISO 8296) handelt es sich um Flüssigkeiten definierter Oberflächenspannung, die in Flaschen lieferbar sind. Standardbereich zwischen 28 und 56 mN/m.

- Farbe: blau
- Handhabung: einfaches Aufstreichen
- Schnelle Messung mit hoher Genauigkeit
- Gute Ablesbarkeit, auch auf rauhem oder dunklem Material

**Area Impianti S.p.A.**



Address	Via Leonino da Zara, 3/A 35020 Albignasego / PD Italy
Phone	+39 049 8626426
Fax	+39 049 8626422
Internet address	www.areaimpianti.it
E-Mail	commerciale@areaimpianti.it
Stand	Hall 13, A87 (Page 640)

**Product Overview**

Area Impianti S.p.A.

- glasstec.01.04.10 NOx control technology
- .....
- glasstec.01.04.11 Filter technologies (smoke and electrostatic)
- .....
- glasstec.02.12.04 Purification of exhaust gases

**Product Details**

Area Impianti S.p.A.

glasstec.02.12.04 Purification of exhaust gases

**Flue Gas Treatment**

Respecting the environment does not mean only to face the problem of greenhouse gases: we must abate NOx, SOx, PCDD, Furans, HCl, HF, dusts, CO, heavy metals too .. The flue gas treatment plants by now are integral and essential part of each productive thermal process and of each Waste & Biomass to Energy process.



**Arkema Inc.**

Address	2000 Market Street 19103 Philadelphia USA
Phone	+1 610 8786966
Fax	
Internet address	www.arkemainc.com
E-Mail	david.dai@arkema.com
Stand	Hall 11, G08 (Page 632)

**Product Overview**

Arkema Inc.

- glasstec.02.06.06 UV-Absorption - Coating (pyrolytic)
- .....
- glasstec.02.06.07 IR-Reflective Coating (pyrolytic)
- .....
- glasstec.02.11.08.07 Other chemicals
- .....
- glasstec.03.10.03.01.06.02 Coating of automotive glass
- .....
- glasstec.03.10.03.01.06.03 Coating of flat glass

**Product Details**

Arkema Inc.

glasstec.02.11.08.07 Other chemicals

**Forane® Foams**

Although Forane 134a is gaseous at atmospheric conditions, it can be used effectively as a blowing agent for spray-applied polyurethane foam. Forane 134a has a low thermal conductivity and can be incorporated into b-side blends to produce foams with good physical properties. See the referenced property table below.

Forane 134a has good low temperature vapor thermal conductivity. Therefore, polyurethane foam blown with Forane 134a has good insulation value at low temperature. This is ideal for refrigerator and freezer applications.

Forane 134a has good low temperature vapor thermal conductivity that allows polyurethane foam blown with Forane 134a to have good insulation value at low temperature. The low boiling point of the material allows the blowing agent to remain in the vapor phase in cold temperature applications such as walk-in freezers. Due to the blowing agent remaining a vapor at low temperatures, it allows for improved insulation and stability.



## ARTIFEX, Dr. Lohmann GmbH & Co. KG

Address	Feldstr. 8 24568 Kaltenkirchen Germany
Phone	+49 4191 935-0
Fax	+49 4191 935-193
Internet address	www.artifex-abrasives.de
E-Mail	info@artifex-abrasives.de
Stand	Hall 15, A37 (Page 648)

### Product Overview

ARTIFEX, Dr. Lohmann GmbH & Co. KG

glasstec.02.11.01	Tools
glasstec.02.11.08.02	Chemical grinding and polishing materials
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
glasstec.04.02	Cutting, grinding and drilling tools

### Product Details

ARTIFEX, Dr. Lohmann GmbH & Co. KG

glasstec.02.11.01 Tools

#### ARTIFEX AO-BQ

This range was developed for straight-line and double-edging machines for edge finishing of all types of flat glass.

Product and application benefits:

- Optimum grain adhesion ■ Long service life / High profitability ■ High profile



stability ■ Excellent surface finishes at low working pressure ■ High polishing quality without Ceriumfinish.

By colour coding the various tools, grit selection made easy.

Fulfilling the needs is our goal! We try to meet every customers requirements. ARTIFEX offers a wide range of abrasives products for polishing of flat glass. Our technical support and our research and development teams are at your service.

#### Artifex-T

Artifex T abrasive wheels Abrasive wheels from the Artifex T series are used to remove metallic surface coatings on insulating glass and solar cells. Surface coating removal on solar cells

Product benefits ■ Generous service life ■ High edge resistance

Application benefit ■ No residue after coating removal

Usage ■ Manual and machine

Compatible materials ■ Solar glass ■ Insulating glass

Application ■ Surface coating removal

Industries ■ Solar glass ■ Insulating glass



„Berliner Bogen“, Bürohaus in Hamburg

## Ashton Industrial



Address	South Rd. CM20 2AR Harlow, Essex United Kingdom
Phone	+44 1279 624810
Fax	+44 1279 626615
Internet address	www.ashton-industrial.com
E-Mail	sashton@ashton-industrial.com
Stand	Hall 15, A04 (Page 648)

### Product Overview

Ashton Industrial

glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.08.04	Edge deletion equipment
glasstec.02.10.01	Washing machines and equipment
glasstec.02.11.04	Sealants
glasstec.02.11.05	Spacers

### Product Details

Ashton Industrial

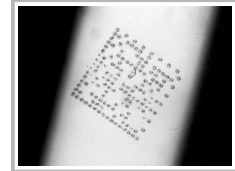
glasstec.02.03.01.01 Grinding techniques for straight edges

#### Pre-Tempering Machinery

Fully automatic FastTrak™ and SeamMaX-XTM ar-  
rissing (seaming) lines.

Online options of laser marking, edge deletion, corner  
dubbing and automatic furnace batching.

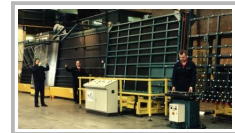
Offline high performance heavy duty manual diamond  
belt seamers and associated equipment.



glasstec.02.08.01 Complete plant for insulating glass production

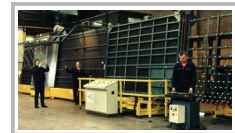
#### Insulating glass equipment

High performance I G production lines for traditional  
metal spacer frames and for flexible warm-edge sys-  
tems. No manual adjustment regardless of size, thick-  
ness, spacer width, or shape. Option for steps in X and  
Y. Heavy duty off-line machinery including sealing tables,  
& Georgian (Muntin) profile processing.



#### Insulating glass equipment

High performance I G production lines for traditional  
metal spacer frames and for flexible warm-edge sys-  
tems. No manual adjustment regardless of size, thick-  
ness, spacer width, or shape. Option for steps in X and  
Y. Heavy duty off-line machinery including sealing tables,  
& Georgian (Muntin) profile processing.



glasstec.02.08.04

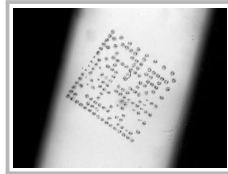
Edge deletion equipment

### Pre-Tempering Machinery

Fully automatic FastTrak™ and SeamMaX-XTM ar-  
rissing (seaming) lines.

Online options of laser marking, edge deletion, corner  
dubbing and automatic furnace batching.

Offline high performance heavy duty manual diamond  
belt seamers and associated equipment.



glasstec.02.10.01

Washing machines and equipment

### ASHTON INDUSTRIAL's washing and drying machines

Manufactured almost entirely from stainless steel and other rust-free materials,  
the machine boasts many standard features you'd normally expect to be listed  
as extras.

Check the following list of advantages:

Inner and outer machine frames entirely of stainless steel  
Rollers, shafts, tanks, separators and covers all stainless steel  
Automatic adjustment of rollers to suit the thickness of glass, allowing completely random production  
Automatic lift-off of front brushes whenever the machine stops, to protect coated glass  
Super-compact construction, thanks to a unique design of drying knives mounted vertically rather than diagonally  
Automatic adjustment of air knives to suit each piece of glass as it passes through  
Innovative water treatment arrangement absolutely guarantees your selected quality of water in all wash sets at any time, while a filtered recycling circuit minimises water waste  
Low-water-level protection of switchgear and heaters. All drive elements mounted above the machine in a totally dry environment  
Power-saving shut-off valve for the drying fan whenever the machine stops

Vertical washer type VWPRO™ are supplied to feed all ASHTON Insulating Glass and LEAP-FROG™ production lines.

FALK automatic reverse osmosis water treatment plants can be linked to the machine's integral tank, to constantly monitor and correct any change in water quality during the manufacturing process.

Special features can be specified, including additional washing or drying zones, stepless automatic brush adjustment to varying glass thicknesses and various infeed and exit options.

glasstec.02.11.05

Spacers

### SPACER FRAME PROCESSING MACHINES

Whether you produce spacer frames with corner keys, or with bent corners, ASHTON INDUSTRIAL manufactures a machine to suit your requirements.

The need for semi-automatic equipment at sensible price levels has not been overlooked.

An example is the partially automated corner bending machine which, despite its heavy-duty construction, sells at a fraction of the cost of competitive machinery:

This machine only requires the operator to tap in the frame dimensions on an integrated keypad, and manually feed the profile into the machine

The end stop sets itself fully automatically to the required dimensions

The bending process itself is fully automatic at the press of a button

The cleverly designed bending head copes with all widths of spacer tube without any tooling changes whatsoever

Full range of saws for spacer tubes. Manual, Digital and Computerised length-stop settings.

Manual and Pneumatic spacer tube name stamping machines.

Manually cranked precision-engineered circle bender. Adjustable for all spacer widths and diameters.

## ASRE-Werkzeugfabrik, Arthur Schlieper GmbH & Co. KG



Address	Hastener Str. 137 42855 Remscheid Germany
Phone	+49 2191 988013
Fax	+49 2191 98801338
Internet address	www.asre.de
E-Mail	w@asre.de
Stand	Hall 10, F79 (Page 628)

### Product Overview

ASRE-Werkzeugfabrik, Arthur Schlieper GmbH & Co....

glasstec.02.02	Drilling technology
glasstec.02.03.06	UV edge taping technology
glasstec.02.11.01	Tools
glasstec.02.14	Nanotechnology
glasstec.03.10.01.01.06	Brackets and fittings
glasstec.04.01.01	Mechanical tools
glasstec.04.01.02	Electromechanical tools

glasstec.04.02	Cutting, grinding and drilling tools
glasstec.04.03	Handling tools, hand-guided
glasstec.04.09	Brackets for glass applications

### Product Details

ASRE-Werkzeugfabrik, Arthur Schlieper GmbH & Co....

glasstec.02.02	Drilling technology
glasstec.02.03.06	UV edge taping technology

### UV-Kleber Vitralit

#### Vitralit 6127

Für optisch anspruchsvolle Glas-Glas Verklebungen.

Hochtransparent und vergilbungsfest.

Auch geeignet für Glas-Holz, Glas-Metall und Glas-Polyamid verbindungen

## Athena Engineering & Construction

Address	41, avenue du Général de Gaulle 62510 Arques France
Phone	+33 321 954647
Fax	+33 127471
Internet address	www.athena-intl.com
E-Mail	contact@athena-intl.com
Stand	Hall 13, D81 (Page 640)

**Company News**

Athena Engineering & Construction

**06/30/2010 Large gift ware items for European market**

Athena Engineering & Construction (a division of ARC International) is selected to build a press-blow machine for large items. This machine ST 6 produces up to 11 pieces per minute with max. 260 mm diameter and max. 300 mm net height.

Complete control about the process and all involved mould elements including the automatic control of the parison elongation are the guarantee for the good and constant quality of the manufactured articles. This machine will be supplied in September.

The revised model is able to realize articles of up to 300 mm diameter and 500 mm height.

For questions or more information, please contact the agent for the glass industry, Mr. Klaus Pötting (poeting@poeting.de) or see www.athena-intl.com.

**Product Overview**

Athena Engineering & Construction

- glasstec.01.06.01 Gob feeder
- .....
- glasstec.01.06.07 Press machines
- .....
- glasstec.01.06.08 Press-blow-machines
- .....
- glasstec.01.06.13 Moulds for glass production
- .....
- glasstec.01.06.14 Flash welding and fire polishing machines
- .....
- glasstec.02.03.02.01 Decorative grinding technology for hollow glass
- .....
- glasstec.02.03.05 Polishing technology
- .....

glasstec.02.03.08.01.01 Screen printing techniques

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

glasstec.05.01.02.01 Surface, contour and imperfection measurement and control

**Product Details**

Athena Engineering & Construction

glasstec.02.03.02.01 Decorative grinding technology for hollow glass

**decor cutting machines**

based on the well known PÖTING concept 8 and 16 station machines, automatic loading / unloading



glasstec.02.03.05 Polishing technology

**laser polishing**

acid polishing lines

laser polishing for cut or pressed glasses



glasstec.02.03.08.01.01 Screen printing techniques

**printing machines**

screen printing of glass articles with up to eight different colours



glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

**toughening**

toughening lines for best toughening of glass tableware.  
Up to five times higher resistance, up to 130°C ther-  
moshock resistance



**Atma Champ Ent. Corp.**

Address	65, Wuchuen 7th Rd., Wuku Ind. Zone 248 Wuku, Taipei Taiwan
Phone	+886 2 22991293
Fax	+886 2 22991291
Internet address	www.atma.com.tw
E-Mail	
Stand	Hall 12, A70 (Page 636)

**Product Overview**

Atma Champ Ent. Corp.

glasstec.02.03.08.01.01 Screen printing techniques

**Product Details**

Atma Champ Ent. Corp.

glasstec.02.03.08.01.01 Screen printing techniques

**AT-800H Flat screen printer**

Suitable for fine-line circuit/legend printing jobs for  
single/double-sided, and multi-layer printed circuit boards.



**Digital Electric Squeegee Sharpener**

AT-S70 □ AT-S100

For sharpening squeegee blade mounted readily on a  
clamp/holder, to obtain perfectly straight & sharp blade  
edges for best screen-printing quality.



**AYROX SCRL**

Address	Av. de Fré 98 bte 7 1180 Brussels Belgium
Phone	+32 2 3756198
Fax	+32 2 3720351
Internet address	www.ayrox.com
E-Mail	deals@ayrox.com
Stand	Hall 12, C65 (Page 636)

## Product Overview

AYROX SCRL

glasstec.01.02.04	Laboratory equipment
glasstec.02.03.08.01.01	Screen printing techniques
glasstec.02.05.02	Laser-marking technology
glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.03.03	Automotive glass
glasstec.05.01.01.04	Measurement and control of glass thickness
glasstec.05.01.01.07	Measurement and control of glass tension
glasstec.05.01.02.02	Measurement, control and inspection of gas compounds

## Product Details

AYROX SCRL

glasstec.02.03.08.01.01 Screen printing techniques

### Silk Printing Equipment

#### Silk Printing

For silkprinting glass for automotive, architectural and other applications, we are pleased to offer the following range of equipment and accessories :

Manual, semi-automatic and fully automatic printers, for different print sizes and capacities, with pantograph or tilting frame support and sliding squeegees :

PANT DEBI GALAX BSPM

AUTOMOTIVE

APPLIANCE

ARCHITECTURAL

glasstec.02.05.02

Laser-marking technology

### Laser Marking System

#### Application

This fiber laser marking system applies for all types of glass materials, and can even be used on tempered and laminated glass. The marking system operates either as the stand alone marking station or it can be integrated to the production line. While integrated into the production system the operation can also be switched to the stand alone mode when necessary.

glasstec.02.09.02.02

Laminated glass technology with foil for automotive glass

### Automated Glass Fragmentation Analysing Software

#### Purpose

Frag glass has been designed to meet the requirements of glass fragmentation tests according to EN 12150. (a future version for automotive glass is in development).

This will speed up greatly the fragmentation pattern analysis, and allow better control over the quality.

#### Key features

Frag Glass allows the temperers to:

store the fragmentation results digitally, no need for blue prints any more automatically get the minimum particle count automatically locate the single longest particle set threshold values to alert when close to allowed minimum particle count to identify the potential problem areas thanks to the density map

## B&M Concepts s.a.r.l.

Address	28, Boulevard Princesse Charlotte "Le 98000 Monaco Monaco
Phone	+377 97 772895
Fax	+377 93 105445
Internet address	www.goldseal-coatings.com
E-Mail	ilse.dekesel.b-m@monaco.mc
Stand	Hall 09, C29 (Page 626)

### Product Overview

B&M Concepts s.a.r.l.

glasstec.02.11.08.07 Other chemicals

glasstec.02.14 Nanotechnology

glasstec.03.01.01 Float and mirror glass

glasstec.03.02.01 Tempered glass

### Product Details

B&M Concepts s.a.r.l.

glasstec.02.11.08.07 Other chemicals

#### GoldSeal Glass Coating SPRAY

The SPRAYGUN method is used by professionals who want to use it for larger volumes. It is ideally used just after the tempering process. This allows you to coat by a simple spray method, without having to prepare the surface and without having to clean or polish after application.

## B. Beyer GmbH

Address	Rheinische Allee 6 50858 Köln Germany
Phone	+49 2234 20906-0
Fax	+49 2234 20906-89
Internet address	www.thermoisolierung.de
E-Mail	info@thermoisolierung.de
Stand	Hall 13, F24 (Page 640)

### Product Overview

B. Beyer GmbH

glasstec.02.11.03 Insulating C203materials

glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

### Product Details

B. Beyer GmbH

glasstec.02.11.03 Insulating C203materials

#### Metallfaserschlauch gestrickt

70% Edelstahl 30% Aramid

metal fiber knitted sleeve – 70% stainless steel, 30% aramid Type: SMA

type: SMA

Farbe: gelblich-grün

colour: yellowish-green



Durchmesser: nach Kundenwunsch | diameter: according to customer require-

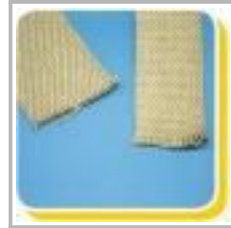


ments

glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

**Metallfaserband gewebt**

70% Edelstahl 30% Aramid metal fiber woven ribbon  
– 70% stainless steel 30% aramid Type: BSK  
type: BSK



Farbe: gelblich-grün  
colour: yellowish-green

Dicke: ca. 1,8 mm, Breite: diverse  
thickness: approx. 1,8 mm, width: various

Verpackungseinheit: 25 m Rolle  
packing unit: 25 m roll

**B.H.T. s.r.l.**

Address	Strada Statale 16 Km. 509 66054 Vasto / CH Italy
Phone	+39 0873 311004
Fax	+39 0873 311909
Internet address	www.bht.it
E-Mail	bhtsrl@tin.it
Stand	Hall 16, A59 (Page 652)

**Product Overview**

B.H.T. s.r.l.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass  
.....  
glasstec.21.02 Special offers for glass trade / crafts

**Product Details**

B.H.T. s.r.l.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

**TEMPERING AND COOLING SECTION**

The tempering and cooling section is made of blowers, uppers and lowers, under which a steel rolls conveyor with isolating cloth, moves the glass.

The blowers are mounted on proper motorised independent frames, permitting the distance regulation between the blowers and the glass.

The tempering blowers are equipped with blow pressure measuring devices.

**Bando Kiko Co., Ltd.**

Address	2-4-60, Kanazawa 770-0871 Tokushima Japan
Phone	+81 88 664-5280
Fax	+81 88 664-5282
Internet address	www.bandoj.com
E-Mail	global@bandoj.com
Stand	Hall 15, B61 (Page 648)

**Product Overview**

Bando Kiko Co., Ltd.

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.01.03	Devices for coating removal
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.03.01.03	Grinding techniques for formed glass
glasstec.02.03.05	Polishing technology
glasstec.02.03.07	Water treatment for grinding technology
glasstec.02.07.01	Machines and equipment for the production of display glass
glasstec.02.07.02	Components and accessories for display glass technology
glasstec.02.10.01	Washing machines and equipment
glasstec.02.10.02	Brushing, high-pressure and ultrasonic systems
glasstec.02.10.03	Waste water treatment equipment

glasstec.02.11.01	Tools
glasstec.02.11.08.03	Chemical coolants
glasstec.04.02	Cutting, grinding and drilling tools
glasstec.06	Contracting, consulting, engineering, services

**Product Details**

Bando Kiko Co., Ltd.

glasstec.02.01.01.01	Cutting technology for float glass
<b>extra-thin glass for LCD</b>	
Cutting & double-edging lines for extra-thin glass for LCD and other panel display purposes	
<b>extra-thin glass for LCD</b>	
Cutting & double-edging lines for extra-thin glass for LCD and other panel display purposes	

**BARNACORK, S.L.**

Address	Santiago Russinyol, 14 nave D-2, Pol. 08213 Polinyà, Barcelona Spain
Phone	+34 93 3097783
Fax	+34 93 5135705
Internet address	www.barnacork.com
E-Mail	info@barnacork.com
Stand	Hall 17, B04 (Page 656)

**Product Overview**

BARNACORK, S.L.

glasstec.02.11.05      Spacers

**Product Details**

BARNACORK, S.L.

glasstec.02.11.05      Spacers

**cork pads**

The Starpad spacers include the biggest glass protection and transport range in the market: adhesive cork, cork+pvc foam, adhesive pvc, automotive cork pads, 0,8 mm. thickness for small sizes, Lisec machine, Lenhardt machine



**Bassra Machine Tools Ltd.**

Address	99 Spring Road B11 3DJ Tyseley, Birmingham United Kingdom
Phone	+44 121 707-4343
Fax	+44 121 707-3535
Internet address	www.bassra.com
E-Mail	cjk@bassra.com
Stand	Hall 12, A69 (Page 636)

**Product Overview**

Bassra Machine Tools Ltd.

glasstec.02.08.01      Complete plant for insulating glass production

**Product Details**

Bassra Machine Tools Ltd.

glasstec.02.08.01      Complete plant for insulating glass production

**BMT SEMI AUTOMATIC ROLLER PRESS LINE**

Machine Features

Stainless steel washing section

Working direction: Left to right or Right to left

Inlet unit

Inlet for washing and drying unit.

Automatic drives which pushes the glass in the washer automatically.

Washing and Drying unit

Bush rollers moves at high speed

Capable to wash Low E Glass, Hard Coat and Clear Glass

Inwards Brush adjustments for maximum usage.

Glass windows in front door for better inspection

Adjustable glass transport speed

Hot air drying facility for better and fast drying

Fan placed in a noise - isolated housing

Hot water facility for better cleaning

Stainless steel water tank fitted with float valve for controlling the water level

Parts used Siemens, Nord, Mitsubishi, Mink, Telemecanik, Omron, Schneider

Outlet unit

Outlet for washing and drying unit.

Automatic drives, which pulls the glass out from the washer automatically

Assembly Rack

This unit is there for the use of aluminium spacer bar. The first Glass comes here and the spacer frame is applied on this first piece of glass.

Right angling unit enabling easy placement of the spacer profiles

The foot Padel will take the rack on backward position to allow second piece of glass to go in front of first piece of glass.

After the alligment is done the unit goes through roller press.

Roller Press

Manually operated Capable of doing double glazed units  
 Manually adjustable Pressing Pressure for different sizes.  
 Outlet Unit ( Tilting Table Optional)  
 Outlet Unit for Final Collection after Roller Press  
 Automatic drives, which pulls the glass out from the washer automatically

### Baudin (Groupe), Janbac



Address	61, Rue Saint-Léger 78540 Vernouillet France
Phone	+33 1 39715800
Fax	+33 1 39657058
Internet address	www.janbac-baudin.com
E-Mail	cial.janbac@janbac-baudin.com
Stand	Hall 11, F13 (Page 632)

#### Product Overview

Baudin (Groupe), Janbac

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.01.04.02	Thermal snapping devices

glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.03.01.03	Grinding techniques for formed glass
glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies
glasstec.02.03.05	Polishing technology
glasstec.02.03.07	Water treatment for grinding technology
glasstec.02.03.08.01.01	Screen printing techniques
glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.02.09.01.02	Furnaces for chemical pre-tempering of glass
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.02.09.02.03	Laminated glass technology with adhesives, casting resin and laminate
glasstec.02.10.01	Washing machines and equipment
glasstec.02.10.03	Waste water treatment equipment

**Product Details**

Baudin (Groupe), Janbac

glasstec.02.01.01.02 Cutting technology for laminated safety glass

**nipper roller machines**

nipper roller machines for flat or bent laminated glass

glasstec.02.02 Drilling technology

**Drilling-Technology**

Drilling-Technology, full range of single- and multi-spindle drilling machines( manual, automatic and numerically controlled ), drilling machines for ceramics

glasstec.02.03.01.01 Grinding techniques for straight edges

**Straight line edging machine**

. General points concerning our straight line edging machines

Simple and robust construction Very simple to use Easy, low-cost maintenance  
Low noise, thanks to state-of-the-art technology

**Bavelloni - Glaston Italy Spa**



Address	Via Milano, 93 22070 Bregnano / CO Italy
Phone	+39 031 728311
Fax	+39 031 7286358
Internet address	www.glaston.net
E-Mail	info.italy@glaston.net
Stand	Hall 14, B40 (Page 644)

**Product Overview**

Bavelloni - Glaston Italy Spa

glasstec.02.01.01.01 Cutting technology for float glass

glasstec.02.01.01.02 Cutting technology for laminated safety glass

glasstec.02.02 Drilling technology

glasstec.02.08.04 Edge deletion equipment

glasstec.02.11.01 Tools

glasstec.03.10.03.01.01 Grinding technology

glasstec.04.02 Cutting, grinding and drilling tools

**Product Details**

Bavelloni - Glaston Italy Spa

glasstec.02.01.01.01 Cutting technology for float glass

**Bavelloni FLOAT CUTTING technology**

The new generation of Bavelloni cutting-lines and plants for monolithic glass are modern and genuinely innovative technological solutions capable of ensuring excellent performance and high quality standards. The Bavelloni cutting solutions present a wide product range (REV and Syncro series), designed according to modular principles, permitting us to offer solutions which are always customized in accordance with the production requirements and objectively available space of the glassworks.



glasstec.02.01.01.02 Cutting technology for laminated safety glass

**Bavelloni LAMINATED CUTTING technology**

The innovative Bavelloni technology for cutting laminated glass represents a considerable improvement compared with traditional technology in terms of movement, security, visibility and accessibility of the machine due to the absence of a second bridge, factors which



permit more rapid operations and a general increase in productivity. The highly modular design of Bavelloni Lamy tables and lines offers higher flexibility and different solutions with variable levels of automation, price and dimensions, adaptable to the widest range of requirements.

### Flat Laminating

Tamglass flat laminating lines are designed for flexible and cost-effective production of flat laminated glass. Tamglass product range in flat laminating covers all architectural purposes: Low-E, bullet proof, curtain walls, roof glazings, facades, shop windows etc.

glasstec.02.11.01 Tools

### Bavelloni Tools

Bavelloni-Werkzeuge arbeiten in perfekter Synergie nicht nur mit Bavelloni-Maschinen, sondern mit allen anderen Glasbearbeitungsmaschinen auf dem Markt. Technologischer Fortschritt ist die Basis für die Entwicklung von Hochleistungswerkzeugen für alle Bearbeitungsarten. Bavelloni weiß, wie wichtig umfassende Lösungen zur Leistungsoptimierung sind.



## Beijing Hanjiang Automatic Glass Machine Equipments Co., Ltd.

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Fax	+86 10 89411980
Internet address	www.hjglass.com.cn
E-Mail	hhj@hjglass.com.cn
Stand	Hall 12, F65 (Page 636)

### Product Overview

Beijing Hanjiang Automatic Glass Machine...

glasstec.02.08.01 Complete plant for insulating glass production

### Product Details

Beijing Hanjiang Automatic Glass Machine...

glasstec.02.08.01 Complete plant for insulating glass production

### AUTOMATIC INSULATING GLASS LINE

Type: HJ-LINE-2009NW

Description:  Multifunctional line with free options between Assembly-in-press and Assembly manually

- Perfect structure stepped IG production performance
- Assembly outside the press function guarantee high productivity
- Two options of Super Spacer and Aluminum Spacer IG on one line
- Output and tilting are completed at the same time
- Max glass size: 1950×2580mm
- Min glass size: 200×450mm
- Glass thickness: 3□15mm
- Insulating glass thickness: 48mm
- Washing speed: 0□8m/min
- Brush: 3 pairs Conveying speed:45m/min
- Power: 3P 380V/1P 220V 38kW 50Hz
- Air pressure-1MPa
- Water: Water consumption-0.5t/h;
- Water conductivity≤50 μ s/cm

## Beijing Huali Architecture Decoration Co., Ltd.

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Phone	+86 10 61536483
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E-Mail	huali@bj-huali.com.cn
Stand	Hall 10, B80-28 (Page 628)

### Product Overview

Beijing Huali Architecture Decoration Co., Ltd.

glasstec.02.11.04 Sealants

### Product Details

Beijing Huali Architecture Decoration Co., Ltd.

glasstec.02.11.04 Sealants

#### HOT MELT SEALANT

HOT MELT SEALANT, high quality green product of a new generation, and is produced especially for insulating glass. It is able to yield outstanding adhesion to glass and aluminum, as well as excellent resistance against water, which enables single sealing to complete the sealing of insulating glass.

#### HualiSeal

HualiSeal, a new material for insulating glass, is a high performance polymer produced with proprietary formula through special process. It has avoided complex and trivial procedures by integrating functions of sealant, drier and aluminum spacer, which makes it possible to replace several items of procedures only with the adhesive strip.



## Bekaert Advanced Coatings N.V.

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Stand	Hall 12, B29 (Page 636)

### Company News

Bekaert Advanced Coatings N.V.

**08/13/2010 Bekaert demonstrates latest innovations in rotatable sputtering technology at Glasstec 2010 and PVSEC 2010**

Lowering cost and increasing quality in Large Area Glass Coating (LAGC) and Photovoltaic (PV)

Bekaert Advanced Coatings will showcase its latest range of rotatable sputtering solutions at Glasstec 2010 which takes place from 28 September to 1 October, 2010 at the Messe Düsseldorf, Germany.

Visitors to this show will have the opportunity to learn and understand how Bekaert's advanced coating technologies continue to bring new innovative functionality to large area glass applications to improve overall quality – and how the same proven technology is now reducing the cost of manufacturing photovoltaic (PV) solar cells.

Technological innovation from planar to rotatable

Over the last 20 years, Bekaert has worked hand-in-hand with the glass industry to develop a range of advanced coating technologies to meet the growing demand for improved aesthetics and functional comfort. Today, Bekaert's innovative rotatable sputtering technology is used around the globe to coat a wide range of large area glass applications including architectural (low-emissivity, so-

lar control etc.) and automotive glass (hydrophobic glass, anti-reflective glass etc.).

"Since we first introduced the cylindrical magnetron technology in the large-area glass markets, material utilization has improved threefold, and both throughput and layer repeatability have increased significantly," says Koen Staelens, Product Market Manager at Bekaert Sputter Products. "It's no surprise the technology has become the standard for producing high quality and low cost coating stacks on large glass plates. A similar trend is anticipated for the fabrication of efficient photovoltaic (PV) solar cells (mainly thin-film, but also c-Si)," continues Staelens.

"In the early days of solar cell fabrication, the focus was on achieving acceptable energy conversion efficiencies. The traditional approach of using a planar magnetron cathode for depositing a thin film on the substrate offered good performance but targets became exhausted very quickly in large production runs. With the current trend towards high volumes, rotatable sputtering solutions will achieve the same or better cell performance while reducing the cost of ownership considerably."

The benefits of rotating magnetron technology over traditional planar technology are now well known and accepted in the marketplace. Higher target material inventory and utilization rates, higher deposition rates, increased process stability, higher sputter efficiency and reduced coater down time all contribute to a lower total cost of ownership.

With over 4 500 magnetrons operating around the globe, Bekaert takes a leadership role in this market. Its success has been based on combining the right target materials with the appropriate magnetrons. Today, Bekaert offers complete sputter solutions consisting of the magnetrons and the cylindrical targets – but also the magnet bars, power supplies, gas distribution, control and automation systems.

Product information sessions on the stand

Visitors to the Bekaert stand will have the opportunity to see the Compact End Block (CEB), which is ideal for medium-powered applications and is renowned for its reliability and outstanding performance. Also on display will be the Adjustable Magnet Bar (AMB), which enables optimization of layer thickness uniformity and improves target utilization efficiency. Furthermore, the standard End Block, trimline End Block, and the Bekaert Axial Magnetron (BAM) which is ideally suited for webcoating lines as it occupies no space inside the coater will be displayed. Rotatable sputter targets being showcased include AZO, High purity Si, Mo, Sn, TiOx and ZnAl.

## Product Overview

Bekaert Advanced Coatings N.V.

glasstec.02.06.01	Vacuum coating equipment
glasstec.02.06.08	Sputtering targets for glass coatings
glasstec.02.07.01	Machines and equipment for the production of display glass

## Product Details

Bekaert Advanced Coatings N.V.

glasstec.02.06.01 Vacuum coating equipment

### R&D vacuum systems

Multipurpose R&D vacuum system with

standard 19" cabinet vacuum chamber : 450 mm x 450 mm x 450 mm manually operated door with viewport standard dual stage rotary vane pump pirani gauge PLC with operator interface



Can be equipped with

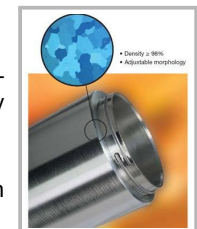
other vacuum pumps sputter source(s) and power supplies substrate carrier substrate heater throttle valve mass flow controllers other plasma sources etc ...

glasstec.02.06.08 Sputtering targets for glass coatings

### Rotatable High-Density Sn

Rotatable High-Density Sn sputter targets combine the advantages of the thermal spray technology with high-density structures.

Benefits of using the Bekaert Rotatable High-Density Sn sputter targets:



When changing from standard density (90%) targets to high-density thermal sprayed targets (>=98%) you can increase the power on your target, resulting



in a higher sputter rate .

Tunability : grain morphology and orientation is specifically tuned to fit the needs for large area glass coating stacks.

Thermal spraying offers the possibility to create long-life (dogbone shaped) targets, offering a superior degree of utilization and thus resulting in fewer target changes .

## Benteler Maschinenbau GmbH



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E-Mail	glass-processing@benteler.com
Stand	Hall 15, G14 (Page 648)

## Product Overview

Benteler Maschinenbau GmbH

glasstec.01.10.04	Paper applying machines
glasstec.01.10.06	Stacking machines
glasstec.01.13.01	Feeding and stacking systems
glasstec.01.13.02	Transport and handling systems
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.01.03	Devices for coating removal
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.03.01.03	Grinding techniques for formed glass
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.02.10.01	Washing machines and equipment
glasstec.02.10.02	Brushing, high-pressure and ultrasonic systems
glasstec.05.01.02.01	Surface, contour and imperfection measurement and control

**Product Details**

Benteler Maschinenbau GmbH

glasstec.02.09.02.02 Laminated glass technology with foil for automotive glass

**Automobilglas**

Die Sparte Glastechnik des Benteler Maschinenbau entwickelt und liefert innovative Maschinen- und Anlagenkonzepte für Anforderungen im Bereich Automobilglasbearbeitung.

Wir bieten:

Kundenindividuelle Einzelmaschinen Verkettete Maschinen und Fertigungslinien sowie

Engineering: Projektplanung und Umsetzung Beratungskompetenz von der Planung bis zur Inbetriebnahme Individuelle Lösungen basierend auf bewährten Komponenten Anbindung (Hardware, Software) auch für bereits bestehende Maschinen Engineering von der Planung bis zur Fertigungsstätte

Konzepte und Lösungen aus einer Hand!

Produkt-Portfolio Automobilglas:

Schneid-, Brech- und Schleiflinien Bohrmaschinen Glaswaschmaschinen (für Flachglas und gebogenes Glas) Trimming-Stationen Glas-Handling-Maschinen und Linien Inspektions Linien



**Best Glass Machinery Ind. Co. Ltd.**

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Phone	+90 216 6270636
Fax	+90 216 6270695
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Stand	Hall 17, A05 (Page 656)

**Product Overview**

Best Glass Machinery Ind. Co. Ltd.

glasstec.02.08.01 Complete plant for insulating glass production

**Product Details**

Best Glass Machinery Ind. Co. Ltd.

glasstec.02.08.01 Complete plant for insulating glass production

**2200 Best Cold XL**

TWO COMPONENT HYDRAULIC EXTRUSION PUMP WITH TELESCOPIC ARM

High efficiency Lowest loss of material Long life usage Easy maintenance with special design



**7000 Prima Logic A**

-It is used for butyl injection for profile frames



- 7 kg P.I.B. blocks
- Speed adjustable butyl belt from 20m to 57 m/min
- Ready to work in 20 minutes
- Height and width ( from 6 mm up to 20 mm ) adjustable butyl nozzles
- Height and width adjustment can be done under pressure
- Security systems in PLC control unit for safety
- Ability to enter parameters with touch panel
- Spacer bar fixing wheels on the inlet and outlet sides
- Automaticly adjustable spacer bar width
- Automatic adjustment of clamp activity and butyl begining and stop when speed is changed
- Smooth and constant butyl injection by precise hydraulic system
- Auto-run system with timer
- Exact temperature controlling with PID conntrol system
- Individually controlled temperature of butyl cylinder and nozzles
- Isolated butyl cylinder
- Easy cleanable silicone covered butyl belt
- 2,5 kw energy saving by air driven hydraulic pump
- Electrostatic powder paint coated steel body
- Completely hardened injection unit

- Possibility to work with 220 V
- Auto-closing system
- Option : Butyl injection to circular shaped spacer bar

### Biebuyck S.A.

Address	Chaussee Paul Houtart 160 7110 Houdeng-Goegnies Belgium
Phone	+32 64 239211
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Internet address	www.biebuyck.com
E-Mail	info@biebuyck.com
Stand	Hall 12, A66 (Page 636)

### Product Overview

Biebuyck S.A.

glasstec.02.03.02.01	Decorative grinding technology for hollow glass
glasstec.02.03.02.02	Surface grinding for moulded glass
glasstec.02.03.05	Polishing technology
glasstec.02.05.02	Laser-marking technology
glasstec.21.02	Special offers for glass trade / crafts

**Product Details**

Biebuyck S.A.

glasstec.02.03.02.02 Surface grinding for moulded glass

**TR3 Classic**

The TR3-C is the cost-effective and fully flexible solution for sawing, grinding and bevelling soda-lime, crystal and lighting ware. The TR3-C is especially adapted for machining glass or crystal vases and figurines. As a compact 3 heads transfer unit, the TR3-C performs following finishing operations:

moil removing by sawing the downwards oriented moils (BIEBUYCK patent) flat grinding of the rim using diamond wheels inside and outside diamond bevelling using diamond tools (optional)

fine grinding / mechanical polishing (optional).

**Biedermann GmbH**

Address	Heubergstr. 19 70806 Kornwestheim Germany
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Stand	Hall 09, A29 (Page 626)

**Product Overview**

Biedermann GmbH

glasstec.02.09.02.03 Laminated glass technology with adhesives, casting resin and laminate

**Product Details**

Biedermann GmbH

glasstec.02.09.02.03 Laminated glass technology with adhesives, casting resin and laminate

**ArtMount S**

Art Mount S ist ein einseitig mit Silikonpapier abgedeckter Kaltaufziehfilm für den Innen- und Außenbereich. Als Träger wird eine 13 µ starke, transparente Polyesterfolie verwendet, die beidseitig mit einem hochwertigen Hot Melt Kleber versehen ist. Die Folie kann auf glatten Oberflächen eingesetzt werden und eignet sich optimal zur Verarbeitung in Rollenkaschiergeräten.

**Heißkaschierfolien**

**Fixmount Ultra**

FixMount Ultra ist ein beidseitig mit Heißkleber beschichtetes Papier. Es ist sehr gut geeignet, um einfach, rationell und preiswert Kunstdrucke, Poster, Plakate, Seidenbilder etc. auf Karton, Hartfaserplatten, Leichtschaumplatten etc. in hoher Qualität aufzuziehen. Durch den niedrigen Aktivierungsbereich des Klebers wird die Folie auch zum Aufziehen von Fotos, Inkjetmedien und Materialien, die gegenüber hohen Temperaturen empfindlich sind, eingesetzt. FixMount ultra ist pH-neutral und säurefrei. Dicke ca. 50 µ, Verarbeitung ab 77°C.

**Blokkiln BV**

Address	Edisonweg 26 3752 LV Bunschoten Netherlands
Phone	+31 33 299-9625
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Internet address	www.blokkiln.com
E-Mail	info@blokkiln.com
Stand	Hall 11, F30 (Page 632)

**Product Overview**

Blokkiln BV

glasstec.02.04      Forming and bending technology

**Product Details**

Blokkiln BV

glasstec.02.04      Forming and bending technology

**Flexburn III for the glass industry**

A gas fired infrared kiln for bending, slumping and fusing techniques.



The heat sources are top quality infrared radiation burners. Radiation of these burners heats up the glass on the outside and inside at the same time. This feature facilitates much quicker heating of the glass than ever possible when using an electric kiln.

The kiln is produced according to CE standards and absolutely safe to operate

**The Blokkiln PVB Laminate II**

The Blokkiln PVB Laminate II is a glass-working kiln for the autoclave-free lamination process.



The principle of the lamination process consists of joining two or more sheets of glass with one or more PVB layers "sandwiched" between the glass panes. The lamination occurs under simultaneous heating of the glass sheets and the PVB foil. Autoclave-free obviously indicates that laminated glass is manufactured without the autoclave step, eliminating the need for a costly autoclave.

Lamination is reached by vacuum and warmth only, while the product definitely meets the same quality standards compared to materials, laminated with the autoclave system.

**Bohle AG**



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E-Mail	info@bohle.de
Stand	Hall 09, D44 (Page 626)

**Product Overview**

Bohle AG

- glasstec.02.01.01.01      Cutting technology for float glass
- glasstec.02.01.01.02      Cutting technology for laminated safety glass
- glasstec.02.01.01.03      Cutting technology for technical glass
- glasstec.02.01.02      Glass saws
- glasstec.02.02      Drilling technology
- glasstec.02.03.01.01      Grinding techniques for straight edges
- glasstec.02.03.01.02      Grinding techniques for patterned glass

glasstec.02.03.01.03	Grinding techniques for formed glass
glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies
glasstec.02.03.05	Polishing technology
glasstec.02.03.06	UV edge taping technology
glasstec.02.03.07	Water treatment for grinding technology
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.10.01	Washing machines and equipment
glasstec.02.10.03	Waste water treatment equipment
glasstec.02.11.08.02	Chemical grinding and polishing materials
glasstec.02.11.08.06	Chemical cleaning agents
glasstec.02.12.05	Waste water treatment
glasstec.03.10.01.01.06	Brackets and fittings
glasstec.03.10.03.01.01	Grinding technology
glasstec.03.10.03.01.02	Grinding and polishing materials
glasstec.03.10.03.01.03	Blasting technology

glasstec.03.10.03.01.06	Renovation and cleaning of erected glass
glasstec.03.10.03.01.06.03	Coating of flat glass
glasstec.03.10.03.01.06.04	Coating of sand-blasted glass
glasstec.04.01.01	Mechanical tools
glasstec.04.01.02	Electromechanical tools
glasstec.04.02	Cutting, grinding and drilling tools
glasstec.04.03	Handling tools, hand-guided
glasstec.04.05	Protection devices
glasstec.04.06	Working clothing
glasstec.04.09	Brackets for glass applications
glasstec.04.10	Adhesive technology
glasstec.05.01.01.04	Measurement and control of glass thickness
glasstec.05.01.03	Measuring devices to be used on site
glasstec.21.02	Special offers for glass trade / crafts

**Product Details**

Bohle AG

glasstec.02.01.01.01 Cutting technology for float glass

**Glass Cutter**

In the product division Glass Cutting Bohle offers: • Glass cutters • Cutting wheels for industrial use • Glass breaking tools • Accessories • Consumables  
Products for cutting and breaking glass were among the first that Bohle produced after the company was founded. With the brand names Silberschnitt and Diamantor, this product division still belongs to the core competencies of the

company today. In development, production and sales, the main focus is on manual and automated glass cutting as well as glass breaking.

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### Manual Glass Cutting & Glass Breaking

Silberschnitt Products, Oil Glass Cutters, Glass Cutters with Carbide Wheels, Glass Cutters with Steel, Thick Glass Cutting, Circle Cutters, Oval Cutters, Shape Templates, L-Squares and Straight Edges, Cutting Fluids, Glass Breaking, Cut Running Pliers, Glass Breaking Pliers, Products for Art Glass, Glass Cutters for Art Glass, Cutting and Breaking Aids, Grozing Pliers, Zag-Zag Pliers, Scalloping Tool

glasstec.02.01.02 Glass saws

### Glass Grinding, Glass Drilling, Glass Sawing

Tools for Glass Drilling and Countersinking Glass Sawing; Machines for Glass Sawing

glasstec.02.03.06 UV edge taping technology

### VERIFIX UV-Klebstoff LV 740VIS

BO\_LV74V1K\_PF3\_A1.jpg

Der neue UVA- und lichterhärtende Klebstoff Verifix LV 740VIS ist ein niederviskoser Klebstoff und aufgrund seines sehr guten Kapillerverhaltens hervorragend für die Hauptanwendungsbereiche bei Objekten oder Glaskonstruktionen mit statischen und auch dynamischen Kraftbelastungen geeignet. Ein geringer Reinigungsaufwand bietet die Möglichkeit für schnelle und rationelle Produktionszyklen. Er zeichnet sich besonders durch hohe Festigkeit gepaart mit guter Elastizität in der Verklebung aus. Durch seine Zusammensetzung ist Verifix LV 740VIS speziell für die Verklebung von VSG/VSG geeignet. Die PVB-Folie absorbiert fast die gesamte UVA-Strahlung. Da dieser Klebstoff lichterhärtend eingestellt ist, reagiert er auch mit der verbleibenden Strahlung (über 380nm) und härtet durch. Übertreffend ist seine optische Klarheit, langfristige Vergilbungssicherheit und hohe Feuchtigkeitsbeständigkeit. Vorsicht vor starken Lichtquellen bei der Verarbeitung, sie können zu einer unerwünschten Voraushärtung führen!

glasstec.02.11.08.06 Chemical cleaning agents

### Glasbearbeitungsmaschinen

Glaswaschmaschinen

### boraident GmbH



Address	Köthener Str. 33a 06118 Halle Germany
Phone	+49 345 478235-0
Fax	+49 345 478235-10
Internet address	www.boraident.de
E-Mail	info@boraident.de
Stand	Hall 11, F40 (Page 632)

### Product Overview

boraident GmbH

glasstec.05.01.01.04	Measurement and control of glass thickness
glasstec.05.01.01.01	Measurement and control of glass position detection
glasstec.02.05.02	Laser-marking technology
glasstec.02.05.05	Components and accessories (Laser technology)
glasstec.05.01.04	Detectors for laminated glass

**Product Details**

boraident GmbH

glasstec.02.05.02 Laser-marking technology

**Dünnschicht - Solarzellen**

Optimierung des Qualitätsmanagements in der Fertigung von Dünnschicht - Solarzellen

**PrecisionColor®**

Bei der Fertigung unserer Produkte findet unsere eigens entwickelte und patentierte Technologie PrecisionColor® Lasermikrostrukturierung Anwendung, welche in der Lage ist, Markierungen bis minimal 2,5 µm und folgenden Eigenschaften zu erzeugen:

mechanisch beständig (kratzfest), da im Glasinneren chemisch und physikalisch beständig wie das Glas selbst temperaturbeständig Tg unempfindlich gegen UV-Strahlung fälschungssicher

**Bosch Rexroth AG Antriebstechnik Zahnkette**

Address	Antriebstechnik Zahnkette 31028 Gronau (Leine) Germany
Phone	+49 5182 587-0
Fax	+49 5182 587-30
Internet address	www.boschrexroth.com
E-Mail	toothchain@boschrexroth.de
Stand	Hall 14, A20 (Page 644)

**Product Overview**

Bosch Rexroth AG Antriebstechnik Zahnkette

- glasstec.01.06.06 Blowing machines
- glasstec.01.06.11 Ampoule and laboratory glass machines
- glasstec.01.06.12 Bottle and glass container machines
- glasstec.01.09.01 Transport systems
- glasstec.01.13.01 Feeding and stacking systems
- glasstec.01.13.02 Transport and handling systems
- glasstec.02.04 Forming and bending technology
- glasstec.02.06.01 Vacuum coating equipment
- glasstec.02.06.05 Dryers and decorating technology
- glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

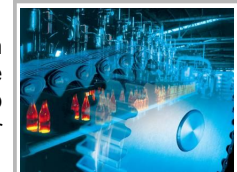
**Product Details**

Bosch Rexroth AG Antriebstechnik Zahnkette

glasstec.02.04 Forming and bending technology

**Sonderzahnketten**

Zahnketten und Ketten von Bosch Rexroth sorgen bei der Autoglasproduktion schon in der Vorwärmzone dafür, das kein Kratzer den Durchblick trübt. Egal, ob reib- oder formschlüssig: Unsere Antriebe sorgen für eine effiziente Produktion ohne Ausschuß.





glasstec.02.06.01 Vacuum coating equipment

### Antriebszahnketten

Moderne Verfahren zum Beschichten erfordern hochgenaue Walzantriebe im Vakuum. Bosch Rexroth liefert Zahnkettenantriebe in Vakuumbeschichtungsanlagen. Hochgenaue Antriebe, auch ohne Schmierung für eine gleichmäßige Schichtdicke.



glasstec.02.06.05 Dryers and decorating technology

### Transportzahnketten

Triebstockantriebe mit Biflex-Zahnketten von Bosch Rexroth sorgen für gleichmäßigen Transport durch Trockner und Brennkammer. Damit es zu einem gleichbleibenden Ergebnis kommt, egal ob beim ersten oder tausendstem Werkstück.

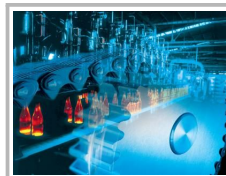


glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

### Zahnkettentriebe

Rexroth liefert:

- Transportzahnketten für Maschinenband und Querband
- Antriebsketten für Flachglasstransport (Vakuum, Reinraum)
- Zahnkettenantriebe für TakeOut-Getriebe



Rexroth bietet mit dem umfangreichen Zahnkettenprogramm für Transportapplikationen die idealen Komponenten für Ihre IS-Maschine. Ob Maschinenband oder Querband, die Transportzahnketten von Rexroth werden für jede Kundenanforderung maßgeschneidert und unter höchsten Qualitätsansprüchen gefertigt. Ob mit Distanz- oder Reinigungsscheiben, in geschliffener oder rostfreier Ausführung! Rexroth realisiert Ihre speziellen Wünsche. Ein besonderes Detail ist die laserverschweißte Außenlasche. Diese ermöglicht ein gefahrloses

seitliches Abschieben Ihrer Produkte, da zwischen der Zahnkette und dem Führungsbett keine Lücke wegen der Nietköpfe mehr entsteht. Zudem sind Rexroth Transportzahnketten durch das spezielle 2-teilige Wiege gelenk extrem verschleißarm.

Ihre Temperaturbeständigkeit ermöglicht ihren Einsatz bis 450° C.

Für TakeOut-Getriebe werden zunehmend Zahnketten eingesetzt, da sie nahezu unzerstörbar sind. Im Gegensatz zu herkömmlichen Riemen, weisen Rexroth-Zahnketten kaum Verschleißerscheinungen auf und verkürzen unnötige Wartungszeiten. Die Folge ist eine unvergleichbare Produktivität!

Die sehr geringe Baugröße von nur 15 mm Breite ermöglicht den Austausch üblicher Riementreibe.

Rexroth Zahnketten für TakeOut-Getriebe. Leistungsstark! Zuverlässig! Präzise!

### Bostik Ltd.



Address	Common Road ST16 3EH Stafford, Staffordshire United Kingdom
Phone	+44 1785 272727
Fax	+44 1785 257898
Internet address	www.bostik.co.uk
E-Mail	glazing.sales@bostik.com
Stand	Hall 17, B67 (Page 656)

**Product Overview**

Bostik Ltd.

glasstec.02.11.04 Sealants

**Product Details**

Bostik Ltd.

glasstec.02.11.04 Sealants

**Bostik 5000**

Bostik 5000 Hot Melt Butyl IG Sealant has been specially developed for the edge sealing of factory produced insulating glass units. Bostik 5000 is a single part butyl rubber based sealant.

**Bostik P5125**

Bostik P5125 Hot Melt sealant has been specially developed for the edge sealing of factory produced insulating glass units. Bostik P5125 is a single part 100% solids compound.

**Evo-Stik Hiflo**

Evo-Stik Hiflo Hot Melt Sealant has been specifically formulated for use in the production of insulating glass units. Evo-Stik Hiflo is a single part butyl rubber based sealant.

**Bottero S.p.A.**



Address	Via Genova, 82 12010 Cuneo Italy
Phone	+39 0171 310611
Fax	+39 0171 401611
Internet address	
E-Mail	
Stand	Hall 16, C05 (Page 652)

**Product Overview**

Bottero S.p.A.

glasstec.01.05.01	Float glass technique
glasstec.01.10.01	Optimization of glass cutting and glass production yield
glasstec.01.13.02	Transport and handling systems
glasstec.01.13.05	Warehouse technology
glasstec.01.13.06	Glass racks for transport and warehouse
glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass

glasstec.02.02	Drilling technology
.....	
glasstec.02.03.01.01	Grinding techniques for straight edges
.....	
glasstec.02.03.01.02	Grinding techniques for patterned glass
.....	
glasstec.02.03.01.03	Grinding techniques for formed glass
.....	
glasstec.02.08.01	Complete plant for insulating glass production
.....	
glasstec.02.08.03	Production equipment for insulating glass frames
.....	
glasstec.02.08.05	Gas filling machines and gas devices
.....	
glasstec.02.08.06	Sealing techniques
.....	
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
.....	
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
.....	
glasstec.02.09.03	Foil treating technology (storing, climate, uncoiling)
.....	
glasstec.06	Contracting, consulting, engineering, services

**Product Details**

Bottero S.p.A.

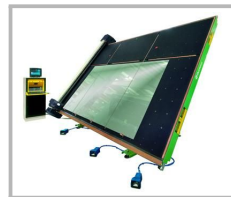
glasstec.02.01.01.01 Cutting technology for float glass

**331 BKM**

Electronic cutting machine for monolithic glass

Technical Features

Machine for loading, cutting, handling and breakout of sheets of flat glass. Structure made up of electro-welded steel tubular pipes, protected by two layers of



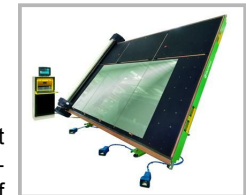
paint: rust-prevention and coloured enamel. Accurately flat and wool felt padded wooden table surface to ensure maximum air cushion performance. Powerful air cushion system with two blowers to create the "air cushion" between the table and the glass. This permits a drastic reduction of the friction and it eases all handling operations of the glass itself. Possibility of producing any complex cutting scheme including straight cuts and shapes (shape optional). Execution of specula cutting, standard. Cutting bridge made up of steel and placed transversally to the machine fitted with state-of-the-art motoring. Cutting pressure adjustment through operator interface. Lubrication system for cutting with flow concentrated on the incision. Manoeuvre control panel for operator is ergonomic and inclusive of Personal Computer; machine control panel with Personal Computer, power logic with relative controls and safety logic. Pneumatically activated glass sheet loading lugs with "dead centre" cam wheels and pneumatic solenoid valve with bistable logic (if there is no consent it cannot move). The edges of the working table are made of solid wood to enable the manual breakout of the glass. Series of pneumatically activated breakout bars inserted in the working table with their pedal commands located close to their respective bar. Head holder carriage activated by direct drive engine on precision racks. Man-machine dialogue simple and intuitive owing to a software interface which takes into account all the glassmaker's requirements. The operator is guided step-by-step, during the introduction of the cutting data and in all operative functions of the machine by the software that helps him and highlights any possible errors.

**331 BKM**

Electronic cutting machine for monolithic glass

Technical Features

Machine for loading, cutting, handling and breakout of sheets of flat glass. Structure made up of electro-welded steel tubular pipes, protected by two layers of paint: rust-prevention and coloured enamel. Accurately flat and wool felt padded wooden table surface to ensure maximum air cushion performance. Powerful air cushion system with two blowers to create the "air cushion" between the table and the glass. This permits a drastic reduction of the friction and it eases all handling operations of the glass itself. Possibility of producing any complex cutting scheme including straight cuts and shapes (shape optional). Execution of specula cutting, standard. Cutting bridge made up of steel and placed transversally to the machine fitted with state-of-the-art motoring. Cutting pressure adjustment through operator interface. Lubrication system for cutting with flow concentrated on the incision.



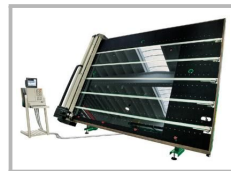
Manoeuvre control panel for operator is ergonomic and inclusive of Personal Computer; machine control panel with Personal Computer, power logic with relative controls and safety logic. Pneumatically activated glass sheet loading lugs with "dead centre" cam wheels and pneumatic solenoid valve with bistable logic (if there is no consent it cannot move). The edges of the working table are made of solid wood to enable the manual breakout of the glass. Series of pneumatically activated breakout bars inserted in the working table with their pedal commands located close to their respective bar. Head holder carriage activated by direct drive engine on precision racks. Man-machine dialogue simple and intuitive owing to a software interface which takes into account all the glassmaker's requirements. The operator is guided step-by-step, during the introduction of the cutting data and in all operative functions of the machine by the software that helps him and highlights any possible errors.

### 341 BCS

Electronic cutting line for monolithic glass

#### Technical Features

Machine for the cutting, handling, breakout and loading of sheets of flat glass. Structure made up of electro-welded steel tubular pipes, protected by two layers of paint: rust-prevention and coloured enamel. Accurately flat and wool felt padded wooden table surface to ensure maximum air cushion performance. Powerful air cushion system with blowers to create the "air cushion" between the table and the glass. This permits a drastic reduction of the friction and it eases all handling operations of the glass itself. Tilting working table (if present) controlled by two hydraulic cylinders that permit the sub-vertical (80°) position to ease manual loading of the glass. Possibility of producing any complex cutting scheme including straight and outline cuts. Cutting bridge made up of steel and placed transversally to the machine fitted with state-of-the-art motoring. Electronic search glass squaring: The use of this system brings two great advantages: - on loaded glass, (in manual mode; the operator must only press the tilting button (if present) and the machine, at the end of the descent operation, will automatically start the cutting cycle (traditionally the operator must: start the air cushion, hand square, stop the cushion, disengage the safety barriers and finally start the cycle). - the glass is no longer squared on the loading lugs; this avoids affecting the cutting precision with the wear of the latter. Cutting pressure adjustment directly from keyboard with possibility to memorise parameters linking them to the type of glass making the use of the machine simple and intuitive. The electronic control of all the parameters (pressure, speed, cutting accelera-



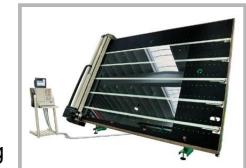
tion, quantity of oil on cut, head descent time, beginning of cut head pressure delta) is constantly ensured by the machine control program. This way there is an excellent and constant cutting quality which permits a good glass breakout. Special solenoid valve for lubrication control, allocated close to the cutting wheel, proper for high evaporating oils use. Equipment's for cutting head safety: Linear encoder for glass detection. Collapsible cutting head element, easy to change, that in case of accidental impact avoids to stress the carriage and the bridge. Pneumatically activated glass sheet loading lugs with "dead centre" cam wheels and pneumatic solenoid valve with bistable logic (if there is no consent it cannot move). The edges of the working table are made of solid wood to enable the manual breakout of the glass. Glass transport towards breakout table is carried out through a series of timing belts. Present for connection to an automatic loader Present for connection to a manual or automatic breakout system. Bridge movement driven by motor gripping on pinions with gripping gear facing downwards with the natural advantage of avoiding the deposit of impurities between the teeth. Head holder carriage activated by direct drive engine on precision racks. Man-machine dialogue simple and intuitive owing to a software interface which takes into account all the glassmaker's requirements. The operator is guided step-by-step, during the introduction of the cutting data and in all operative functions of the machine by the software that helps him and highlights any possible errors.

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glasstec.02.01.01.02 Cutting technology for laminated safety glass

### 511 LAM

Electronic cutting machine for laminated glass



#### MAIN CHARACTERISTICS OF THE 511 LAM / 37

The model 511 LAM/37 is identified by its high levels of "MODULARITY" and "AUTOMATION".

The module and work panel of the 511 LAM / 37 are the control centre of Bottero

technology in the laminate glass-cutting sector.

Main characteristics of the Cutting module:

Heavy duty structure of the machine frame and cutting bridges.

Aluminium is utilised for high precision and stability of moving parts.

Pair of bridges with automatic clamping system for glass sheet cutting, breakout and separating the PVB to obtain a product with a precise and splinter-free cut, as per the BOTTERO PATENT.

Use of special clamping material to enable efficient separation of the glass without the risk of damaging it.

The PVB is separated using an electrical resistance.

It is possible to install (option) a infrared rays resistance. The physical features of the infrared rays allow to heat the PVB without overheat the glass, avoiding the risk of breaking the glass in the following cutting.

The standard machine is equipped with the laser projector device to ease the diagonal cuts.

WORKING TABLE:

The breakout table is equipped with a manual square, positioned on the operator side, which has 2 squaring lugs for measurements up to 2550 mm.

It is possible to preview on the machine an abutment bridge (option) manually handy which allow to certify a max measurement of 3210 mm.

The measurement square and the bridge (option) are fitted with a stopping device, once the needed measure is joined, and with a measure display.

The bridge with manual position (option) is fitted with a lug for lateral squaring foldaway.

Electric unloading arms fitted as standard, incorporated into the machine worktable.

The model 511 LAM/ 37 has a series of optional accessories which complete functionality and the range of use.

### 511 LAM

Electronic cutting machine for laminated glass

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Electric unloading arms fitted as standard, incorporated into the machine worktable.

The model 511 LAM/ 37 has a series of optional accessories which complete functionality and the range of use.

## Bovone Diamond Tools S.r.l.

Address	Via Voltri, 78 15076 Ovada / AL Italy
Phone	+39 0143 835796
Fax	+39 0143 835797
Internet address	www.bovonediamond.com
E-Mail	sales@bovonediamond.com
Stand	Hall 16, D40 (Page 652)

### Product Overview

Bovone Diamond Tools S.r.l.

glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass

### Product Details

Bovone Diamond Tools S.r.l.

glasstec.02.02 Drilling technology

#### Diamond drills

Diamond drills having diameter from 4mm to 250mm and other diameters on request, with all kinds of connections for manual and automatic machines. Special rim drawing to help the core extraction. Single cone and frustum of cone countersinks or countersinks to connect to the drill. Drills, countersinks and special devices for production of glass discs. Different alloys for different applications.

glasstec.02.03.01.01 Grinding techniques for straight edges

#### Cup diamond metal bond wheels

BDT produces wheels for all machines trades for flat glass working. The cup metal bond wheels for beveling 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 beveling 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.



## BRF-Solutions GmbH

Address	Sägeweg 15 4304 Giebenach Switzerland
Phone	+41 61 8116016
Fax	+41 61 8116373
Internet address	www.brf-solutions.ch
E-Mail	info@brf-solutions.ch
Stand	Hall 14, E47 (Page 644)

### Product Overview

BRF-Solutions GmbH

glasstec.02.13.02	Software
glasstec.06	Contracting, consulting, engineering, services

**Product Details**

BRF-Solutions GmbH

glasstec.02.13.02 Software

**Software Lösungen**

BRF Solutions bietet Ihnen maßgefertigte Software-Lösungen für Ihr Unternehmen an. Wir helfen Ihnen, die Leistung Ihres Unternehmens zu steigern, indem wir Ihre Arbeitsabläufe effizienter gestalten.

Unsere Software Lösungen helfen Ihnen, Ihre Produkte, Kunden und Zulieferer effektiv zu verwalten. Organisieren Sie Ihre Termine. Inklusive Buchhaltung, Rechnungsübersicht, detaillierte Verkaufsstatistiken und vieles mehr.

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**Buxtrup Maschinen- & Anlagenbau GmbH**



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**Product Overview**

Buxtrup Maschinen- & Anlagenbau GmbH

- glasstec.02.07.01 Machines and equipment for the production of display glass
- glasstec.02.08.01 Complete plant for insulating glass production
- glasstec.02.09.02.01 Laminated glass technology with foil for architectural glass
- glasstec.02.09.02.02 Laminated glass technology with foil for automotive glass
- glasstec.02.10.01 Washing machines and equipment
- glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)
- glasstec.03.01.01 Float and mirror glass
- glasstec.03.04.02.01 Collectors
- glasstec.03.04.02.02 Solar mirrors
- glasstec.03.04.04 Other accessories and services
- glasstec.03.10.01.01.07 Machinery/tools

**Product Details**

Buxtrup Maschinen- & Anlagenbau GmbH

glasstec.02.07.01 Machines and equipment for the production of display glass

**Glass washing and drying machines**

vertical and horizontal washing machines to customer's requirement





### Glass washing and drying machines

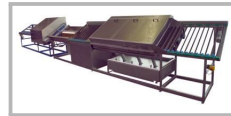
vertical and horizontal washing machines to customer's requirement



glasstec.02.08.01 Complete plant for insulating glass production

### Small insulating glass line

Small insulating glass line with 800 mm production width double and triple insulating glazing, with and without gas filling from 220 x 100mm up to 800 press length (press can be provided in 800 x 800 up to 800 x 1800 mm)



modern operation via graphical color display

applicable for pane patterns, but with 1 straight lay edge

consisting of: washing line and drying line with inlet and outlet

indirectly illuminated control centre with

adjustable traverse and lower limit stop for the machine frame

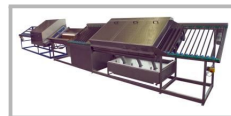
buffer before the gas filling press, in order to reduce the cycle time

assembly press with gas filling system outlet in form of an accumulation conveyor

transport direction according to requirement

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assembly press with gas filling system outlet in form of an accumulation conveyor transport direction according to requirement

glasstec.02.10.01 Washing machines and equipment

### horizontal and vertikal washing and drying machines

within an solar-module-production - for the automotive-industries, cleaning/drying of curved glasses between oven and lamination - for curved mirror production - for flat glass after cutting or grinded glass - for callots, curved and spherical glasses - for armature-glasses - for achictural glass before coating - for insulating glass - for special glasses like object plates - for very small glasses for lamp glasses, halogen spots - for displayglass



Complements: - In- and outlet - separation- station - turning tables

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Complements: - In- and outlet - separation- station - turning tables

### washing and drying machines

horizontal and vertical washing and drying machines for integration within a productionline or for research according to customer's requirements



**washing and drying machines**

horizontal and vertical washing and drying machines for integration within a productionline or for research according to customer's requirements



- SELF CLEANING
- DECORATIVE PRINT
- ENCAPSULATION
- REPRESENTATION AND TRADE
- CONSULTANCY

**BYC Group UNITED Ltd.**

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**Product Overview**

BYC Group UNITED Ltd.

glasstec.02.14 Nanotechnology

**Product Details**

BYC Group UNITED Ltd.

glasstec.02.14 Nanotechnology

**COATINGS AND SERVICES**

- ANTIREFLECTIVE COATING
- ANTIBACTERIAL COATING
- HYRDOPHOBIC COATING
- ANTIFINGER PRINT

**Bystronic Armatec GmbH**



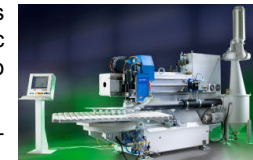
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**Company News**

Bystronic Armatec GmbH

**05/06/2010 Innovative techniques for module production**

A large part of manufacturing for photovoltaic modules incorporates handling and processing glass. Bystronic glass makes a significant contribution in all areas to ensure that the systems run smoothly and effectively.



The German-Swiss company is entirely at home processing glass: For more than 40 years it has been recognized for providing innovative machines, systems and services in glass processing. From basic components to automated, customer-specific complete solutions, Bystronic glass offers extraordinary concepts with unsurpassed quality

– and the same applies to the Solar Industry.

Edge grinding of glass substrates Cleanly ground edges of substrates are absolutely essential to ensure a smooth production process for solar modules. High edge quality free from cracks and shell defects is the only way to prevent glass breakage during the process. This is an important pre-condition for efficient and economical production since glass breakage is a relevant cost factor and always means a stoppage of the system. Whenever glass breakage occurs, the production systems must be run empty and cleaned. Then production has to be resumed again. "Grinding machines from Bystronic glass stand for the highest quality in ground glass edges. For many years the company has established a strong reputation and successful track record with machines of similar design for the automotive industry," explains Markus Lipp Sales Manager and Project Engineer in the Swiss Bystronic glass Technology Center. champ'speedgrind makes it possible to grind edges from a minimum finished dimension of 200 mm x 200 mm to a maximum finished dimension of 2200 mm x 2600 mm with C grind or K grind. The yield is 99.5 percent.

Thanks to a mineral cast machine bed, champ'speed-series machines are completely vibration-free and can therefore provide the greatest precision. Substrates can be ground with extremely fine tolerances of +/- 0.1 mm on absolutely perpendicular sides, even if the starting substrate has large deviations in the angles. As the machines are designed as polar grinding machines with a play-free table, both edges and corners are polished in one pass, with radius or facet. All axes are equipped with maintenance-free and highly dynamic CNC direct drives. The new spindle design works in seconds with two grinding wheels arranged one over the other. "Additional time advantages are derived first from an automatic correction of the grinding wheel diameter, with changeover to another module series or substrate size taking less than five minutes, for example, as well as from the use of an automatic changing system for grinding wheels," comments Markus Lipp in Machine Technology. Thanks to the modular layout of the series, champ'speed machines can be expanded to create large manufacturing cells with an integrated handling device and additional drilling machine.

Applying backrails automatically Backrails are used to fasten thin layer modules in place and to provide stability for modules with especially large surfaces. Tape or liquid adhesive is applied to modules of all sizes for this purpose. Bystronic glass Technology Center Bystronic Armatec provides semi or fully automatic systems for processing and applying backrails. They are available as a stand alone solution or can be integrated into existing lines. "Depending on the module size, up to four rails can be placed on one module at the same time, or four rails can be placed on two modules in twin mode. This process facilitates the shortest cycle times," explains Thomas Ommerle Sales Engineering Solar at Bystronic Armatec. Depending on the rail being processed, positioning accuracy is +/- 0.5

mm.

Bystronic glass provides customers with a system that positions backrails extremely efficiently. First the modules are automatically positioned in pairs on the system. Preparation of the backrails runs in parallel to this process with removal of the rails from a cassette, cleaning, application of primer and adhesive and finally transfer to the assembly line. The rails are automatically positioned and placed on the back of the module. Then the backrails are pressed into place according to the type of adhesive used. In the sorting system, modules are temporarily separated and stored vertically according to performance class. "As soon as the appropriate number for a packaging unit is reached, the system automatically moves the modules on to the next station." Thomas Ommerle describes the range of options: "Professional packaging is available both horizontally with an automatic spacer insert and vertically in cardboard packaging with corresponding separating combs."

#### 05/06/2010 Efficient buffering, storing and sorting of photovoltaic modules

The market leader in the field of sorting systems for glass now also offers customer-specific solutions for the solar industry. Therefore, Bystronic glass's decades of experience in such systems, for example in insulating glass production now also applies to the handling of substrates or ready-made modules.



Bystronic glass offers sorting systems for buffer operation or the direct connection to a production line for thin-film solar modules. Customers obtain modular configurable solutions designed to meet their individual production requirements. "The sorting systems can be used in the front end for de-coupling the different production processes from each other as well as at the back end for sorting the ready-made modules prior to packaging," explains Pieder Berther, project engineer in the sales department of the Bystronic glass Technology Center Bystronic Maschinen AG.

The buffer and storage system Depending on size and composition, the substrates are stored either vertically, at an angle of 6°, or horizontally. Loading and unloading is carried out by means of conveyors, sorting carriages or robots. Depending on customer requirements, this can be done either according to the storing sequence (first-in, first-out principle), against the storing sequence (first-in, last-out principle) or individually in any order. The fixed storage systems or cartridges have more than 120 positions, which can be managed in a high-bay warehouse. "Our buffer and storage system is suitable for the storage of both substrates as well as ready-made modules with back rails and junction box – for

all conventional glass sizes up to 2.20 x 2.60 metres,” explains Pieder Berther. The system’s cycle times can be adjusted according to the performance of the production line.

The sorting system In order to sort ready-made photovoltaic modules according to quality, performance classes, physical sizes or other features a sorting operation is required: After leaving production in the sequence of manufacture, the modules are temporarily stored and then removed at the appropriate time according to the sorting criteria. It is possible to integrate a number of inspection processes in advance – i.e. at the end of the production process and prior to storage and / or sorting. The sorted modules subsequently arrive at the automatic packing station.

”The buffer and storage system as well as the sorting system are characterised by solid design, high positioning accuracy and gentle handling of substrates and / or modules,” Pieder Berther comments to highlight the features of the proven Bystronic glass quality. Apart from these mechanical advantages, the systems are also equipped with their own control system for seamless object tracking, including interfaces to the different processes and the MES (manufacturing execution system).

**05/06/2010 Ergonomic glass handling: Lightweight top crane systems – for easy handling**

”Handling equipment is only popular if it is easy to use,” states Stefan Herrmann, Branch Manager at Sencoglas in Nordhorn, commenting directly about a reason to provide the entire production hall with handling systems from the Bystronic glass group.



The entire hall at Nordhorn in Lower Saxony, which was commissioned in spring 2008, has a framework of lightweight top crane systems and lifts from the Bystronic glass Technology Center Bystronic Armatec. ”At that time, the company asked for a fast and secure glass handling system, which could even be used by inexperienced operators,” explains Dietmar Weichsel, who is selling Bystronic glass handling equipment in northern Germany. For this reason, he suggested a combination of equipment for moving light and heavy glass plates at a single workstation. With this system, he met exactly the needs of the customer, for whom the safety of his employees is of paramount importance.

User-friendly equipment ”We want colleagues to move even the lightest of loads with handling equipment and this can be achieved only if the equipment is easy to use”, reports Stefan Herrmann from his experience. The Branch Manger especially appreciates the Easy-Lift from Bystronic glass: ”Its thick hoisting tube, which compresses the air, allows extremely accurate operation,” he explains and

demonstrates this fact on the glass loader of the production line for laminated safety glass. In general, the handling equipment of the Easy-Lift type is characterised by its rigid connection between the suction frame and the crane track, facilitating exact positioning of the glass lites. At the same time, the aluminium construction keeps the weight of the equipment itself to a minimum.

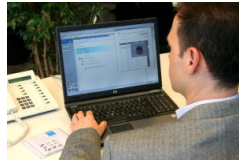
An overview of the product range However, Sencoglas is not only working with the Easy-Lift from Bystronic glass. During the planning of the approximately 15,000 m2 production facility in Nordhorn, the Swiss-German supplier of system solutions for the manufacture of architectural and automotive glass was involved from the very beginning. This provides visitors to the Nordhorn-based Sencoglas factory with a good overview of Bystronic glass’ handling systems product range: Single and two-column lifts, manipulators and suction frames, each running on lightweight top crane systems – almost all variants are available. ”Thanks to the excellent advisory service, the selection of products and equipment for the entire hall this installation was extremely simple,” Stefan Herrmann reports during the guided tour through the hall.

The excellent business relationship goes back more than ten years: At that time, Sencoglas purchased a number of companies in which handling equipment from the Technology Center Bystronic Armatec was already in use. Today, the company is active in 24 locations at home and abroad – from glass cutting via screen printing to the production of insulating and laminated safety glass, the group is serving the entire value chain of glass. In doing so, machines of the Bystronic glass group are being used in almost every location. ”In Nordhorn alone, we installed around 40 handling systems and suitable lightweight top crane systems,” Dietmar Weichsel reports. In addition, there are lines for insulating and laminated safety glass production.

Advantageous handling The reasons for the continuation of the business relationship are obvious: ”The products are convincing and save space especially the handling systems and can be used according to individual requirements because of their modular design,” explains Stefan Herrmann. And last but not least, this also includes the excellent service, as he points out. ”A relationship of trust is important to us. We greatly appreciate that a brief phone call will suffice for a member of the service staff to address the issue shortly afterwards. It is important to have a contact partner who has the technical expertise and is 100 % reliable at the same time.”

**05/06/2010 Customer Service 2.0 at Bystronic Lenhardt**

In line with all new plants, the Bystronic Lenhardt GmbH which is part of Bystronic glass Group, has now launched an optimised, spare-parts catalogue tailored specifically for customer machines. "In CD-ROM format this enables customers to easily identify the required parts and order them directly online. This speeds up the entire delivery process while helping to prevent any wrong orders", Harry Auer, Head of Customer Service summed up regarding the improvement.



The manufacturer of machines and plants for insulating glass production has provided a spare parts catalogue on CD-ROM for eight years now. "The parts catalogue is recognised by customers as an extremely useful tool having become firmly established with our customers," Harry Auer was pleased to report. However, there were various reasons for a modernisation: thanks to an improved search feature, which not only sorts keywords and machine structure, but which can also search various categories. The user can now find the appropriate machine part far more easily. Now, for example, wear parts such as seals or rollers can be collected into a group, while durable machine parts such as motors or bearings are located in their own specific category.

Intuitive Operation Each individual spare part is accompanied by a photo which immediately appears to the customer in the overview. "This not only makes it easier to identify the correct part, it is also in line with the current standards familiar to users in online shops", explained the Head of Bystronic Lenhardt Service. In view of this the visual display and navigation also underwent a complete redesign. Customers can place the required parts into the shopping cart at the click of a mouse and then confirm the order straight away online. The customer is then immediately sent an order confirmation email. Alternatively, customers can also request an offer to match their requirements before actually making an order.

To ensure that the new spare parts catalogue is practice-oriented and user-friendly, Bystronic Lenhardt GmbH actively involved several customers in the development process: this enabled them to test the improved service throughout autumn 2009 for the first time, after which they offered their opinion. At the same time consideration was given to the fact that over the past few years users' habits have also changed in relation to internet browsers used: the new catalogue display and the online ordering process function fully independently of the actual internet browser used.

**07/21/2010 New Investment into Bystronic glass Machines**

Neuhausen-Hamberg (Germany), July 19, 2010. The glass processor Hansen Glass, based in the UK town of Kirkby, modernised its insulating glass production with the acquisition of a spacerbender COMBI from Bystronic glass. Alongside the frame-bending robot made of stainless steel, ideally suited for stainless-steel and plastic-stainless composite spacer bar profiles, the British glass processor also invested in a matching desiccant filling station and a butyl applicator.



After enjoying some excellent experience with cutting solutions made by the German-Swiss specialists in glass-processing machines, Hansen Glass once again decided to go for Bystronic glass quality products. "We are fully satisfied with every Bystronic glass machine, from the quotation phase through delivery and on to commissioning", explains Keith Hibbert of Hansen Glass in Kirkby near Liverpool. The company has been in contact with Bystronic glass since 2000: back then Hansen Glass purchased a solution for loading and glass customization that is still being used today. Keith says: "Right from the very start up to the present day, this system has more than fulfilled all our expectations. We use it five days a week, with three daily shifts and we are particularly impressed by the reliability of the machines."

Investment in the Future For Hansen Glass this current investment is of major significance: for many reasons, including legal regulations, the company decided at the end of 2009 to convert from manual preparation of spacer frames in insulating glass production to state-of-the-art machine technology. The new machines were commissioned at the start of January this year. This means that the company is now able to continuously manufacture top-quality insulating glass units – and to do so without any fluctuations in production. However, it wasn't just the machine technology that clinched the decision for the investment: "As far as we were concerned, the experience we had in terms of the excellent after-sales service and the intensive level of cooperation with Bystronic glass during the quotation phase, were vital criteria", recalls Keith who is perfectly glad to back up the outstanding reputation that Bystronic glass enjoys in the branch.

**05/06/2010 Bystronic glass Wins Large Order in Saudi Arabia**

The Bystronic glass Group has received a large multi-million Swiss francs order from Saudi Arabia. As 2009 drew to a close, Richard Jakob and Fahad Al-Harbi, Chairman of the Wajhat Glass & Aluminium Factory as well as Vice Chairman and CEO of the Al Harbi Holding, finalized the deal with the system's installation scheduled to begin in April 2010.



"Bystronic glass will be supplying all the equipment for a new production hall to be built in the Arabian desert", Richard Jakob, CEO of the Bystronic glass Group, commented. He went on to explain: "The hall will be handed over to the customer for immediate occupancy - a project of this magnitude is both exceptional and fascinating." The order also incorporates a cutting and sorting system, a fully-automated insulating glass line, handling systems along with lines for production of laminated safety glass and tempered glass. This will be the first installation of its kind where the system is directly connected to the furnace and insulating-glass line with an expansion option for the sorting system to include other processes. Until now, the Wajhat Glass & Aluminium Factory, which is a company of the Saudi Marble & Granite Factory Co., has concentrated on processing marble and granite – the acquisition of the Bystronic glass systems marks their entrance into the glass industry. The decision to commission Bystronic glass to fully equip the hall was made by the Saudi Arabian company on the basis of the quality on offer: Machines from the Bystronic glass Technology Center Bystronic Lenhardt GmbH had already left a very positive impression in the past on Fahad Al-Harbi's advisors.

**06/14/2010 Relaunch: 2nd generation Bystronic glass compact'sealer**

KÖWA Isolierglas GmbH in Wackersdorf, Germany, has been working with the first Bystronic glass second generation compact'sealer since the beginning of 2010. "We were won over by both the machine's capabilities as well as the fast, expert service provided by Bystronic glass," explained KÖWA's Managing Director, Klaus Köhler.



The compact'sealer was originally designed as a start-up solution for automatic sealing of insulating glass units. As it has been in the industry for almost 40 years "start-up" is hardly the word to use to describe KÖWA, a member of the Uniglas group, and manufacturer of insulating glass. When they made contact with Bystronic glass they had already been

producing the product on two insulating glass lines for many years; the larger of these lines was modernised only last year and equipped with the latest machines from Bystronic glass. The smaller of the two lines then needed a new sealing robot, which had to fit exactly into the available space. So the company, based in Eastern Bavaria, decided on the compact version of the sealing robot, among other things, because of the machine depth. "Bystronic glass was able to produce good references and ultimately convinced us not only about the machine's technology, but also in respect of the personal advice given to us by their expert sales team," recalled Klaus Köhler.

compact'sealer with new technical details Besides the compact'sealer's proven functions including a volume-controlled and easily accessible dosing system, no-contact conveyor through an air cushion rear wall, and a quick-release closure system for rapid nozzle changing, the latest version of the machine has a few extra technical details. By using a metal spatula which was already in use on its "big brother" – the "sealer" sealing robot, which locks the corners during the injection process, it is possible to achieve a much better quality at the corners. Furthermore, an additional feeler ensures even more accurate calculation of the required quantity of sealing material - even when the space between lites is uneven it is impossible to dispense too much, with resultant spillage. A special coating on the mixer prevents the sealing material from sticking and extends the intervals between cleaning. By implementing high-performance materials with outstanding surface qualities, the dosing unit's service life is also extended.

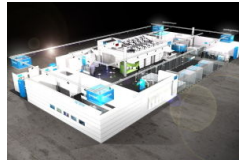
Compact and simply fast The staff at KÖWA are extremely pleased with the way the new compact'sealer operates. "It's a completely new generation of machine, that has made our work much easier," reported Peter Tauber, who, with Cornelia Krempl, is joint Production Manager at KÖWA. He added: "The machine is controlled on a 3D interface with sliders, so it's easy to operate and very accurate even while wearing gloves. Just one person can quickly change the material drums, and the nozzles are flushed by simply actuating the operator knob while in automatic mode." The dosing pistons on the two materials components are synchronised during the mixing process. This means that in automatic operation it is possible to utilise the maximum amount of material available, therefore avoiding machine stoppages.

"On our smaller line we seal insulating glass units in very many standard sizes," continued Klaus Köhler, who last year saw a distinct increase in demand for triple insulating glass units – from a 10 percent share in 2008 to 2 percent in 2009. To meet this demand the sealing robot needed to be able to provide a high quality seal quickly and evenly, even on triple units. "With the compact'sealer we have acquired a machine that perfectly meets all our requirements," explained Production Manager Peter Tauber. In addition to the compact sealing robot, KÖWA has also been operating on the Bystronic glass insulating glass line mentioned

at the beginning of this article since last year, with the company producing units up to 4.00 metres in length.

**07/05/2010 Top Secret Innovations at the Bystronic glass Stand:  
Innovative and flying high at glasstec 2010**

The Bystronic glass Group will be presenting numerous innovations at the glasstec trade fair that is taking place in Düsseldorf from 28 September to 1 October 2010. Richard Jakob, CEO of the Bystronic glass Group revealed: "In addition to numerous new and more sophisticated machines, we will also be presenting our customers with some exclusive innovations in our TOP SECRET area". This closed area will only be accessible to invited or registered guests when accompanied by the Bystronic glass sales staff.



On its stand which covers an area of 1,200 square metres, Bystronic glass will be presenting system solutions for glass processing in the areas of building and automotive glass, not forgetting the solar industry. Moderated live machine presentations will enable visitors to gain an insight into the fascinating technologies. A small oasis of tranquillity will be situated in the centre of the stand in the eco-lounge; here interested visitors can learn about the Bystronic glass commitment motto "Living for the Future" and also relax a little.

"We want to fly high this year – and this is never more true than for glasstec", explained Richard Jakob. Thanks to the two-storey construction, the visitors in the upper catering area will have a good view of the entire stand as well as the areas of Bystronic glass expertise: 1. Glass cutting The focus will be on the efficient sorting concept, first'sort and speed'lamicut, the newly developed cutting plant for laminated glass which includes numerous remarkable functions. 2. Laminated glass manufacturing Bystronic glass will be presenting the horizontal washer, a new horizontal glass washing machine which has been especially designed for laminated glass but has the flexibility to be used in other production areas. 3. Insulating glass manufacturing Decades of experience and numerous pioneering developments make Bystronic glass a highly qualified warm edge expert. As the only provider, the corporate group can offer its customers automated solutions for all of the standard warm edge spacers. Visitors will for example be able to see applications of the trendsetting TPS® technology as well as the Super Spacer® on stand. 4. Handling equipment Bystronic glass traditionally offers a large range of efficient handling equipment for flat glass and plate processing. Visitors can try out numerous lifts and suction frames on the stand themselves. 5. Solar technology No matter whether pre-processing, front-end or back-end: Bystronic glass has the right solar technology solution! With the

photovoltaic TPA it is possible to effectively protect PV thin film modules from moisture prior to the laminating process. Furthermore, the film trimmer enables an automatic trimming of projections to be carried out prior to lamination. 6. Automotive glass pre-processing Bystronic launched a completely new generation of machines for the pre-processing of automotive glass, the champ'speed line, in spring 2010. A video presentation provides an insight into the machine technology from various views. 7. Window manufacturing With a multimedia presentation, Bystronic glass will be presenting the latest developments and efficient solutions in its latest core competence window manufacturing. 8. Service & Support For Bystronic glass, customer proximity and a worldwide after-sales support are inseparably connected to each other. At glasstec 2010, Bystronic glass will be devoting itself to this important subject with its own competence corner. Here, those who are interested can find out more about the subjects hotline, spare parts catalogue, service agreements and training courses.

**05/06/2010 Faster and More Precise Automotive Glass  
Preprocessing**

With its champ'speed line, Bystronic glass is launching onto the market a brand-new generation of machines for preprocessing automotive glass. The line enables cutting, breaking, grinding and drilling of automotive glass with the utmost precision and flexibility. "The champ'speed line is currently the fastest machine of its quality on the market", says Jean-Philippe Chételat, Sales Manager for the Automotive Glass Sector at the Technology Center Bystronic Maschinen AG in Switzerland.



"We have listened to our customers' demands and now – with the champ'speed line – we have adapted our system solution for preprocessing automotive glass for the latest market requirements", explains Jean-Philippe Chételat. All the modules in the machine are individually matched to each other, the movements can be separately configured and, for example, optimized with regard to cycle time. The extremely stable, vibration-free process means that customers can work for many years with a consistently high quality level. "With a repeat accuracy of up to 99 percent, the champ'speed line outshines every other machine available on the market", the Sales Manager is pleased to report. As all the machine parts are within easy reach, working with the new system is an extremely ergonomic process.

Customized, Intelligent State-of-the-art Technology The heart of the system is the cutting and breaking unit. The cutting module contains a maintenance-free AC servo direct drive. Thanks to faster acceleration, it operates extremely dy-

namically with simultaneous maximum cutting accuracy. While doing so the machine automatically optimizes its speed to match the shape to be cut. Pre-cutting of the glass lite along with shape cutting and breaking is conducted in two process steps and therefore enables parallel processing. This in turn results in a definitive cycle time advantage along with high productivity. In addition to this, the use of a special, maintenance-free breaking tool guarantees perfect quality of the edge breaks.

**Maximum Grinding Standard** The grinding module can simultaneously use two grinding wheels enabling a fast bit change. "This means that, for example, automotive glass can be ground in different edge radii, without any need to change the tool in between", explains Jean-Philippe Chételat. As with the cutting module, the grinder module's rotating table is equipped with a maintenance-free CNC direct drive that operates with extreme precision without any play. Additional technical advantages are the automated system for height adjustment of the grinding wheel and a new, efficient cooling system, which ensures that the glass remains dry during processing.

With its champ'speed line, Bystronic glass provides not only a machine for pre-processing automotive glass but also one for processing glass in solar technology as well as for domestic appliances. "As market leader we guarantee the highest production and quality standards providing maximum productivity, outstanding performance, stringent tolerances in grinding precision and perfect edge-processing technology", says the Sales Manager.

**Living for the Future** Alongside the technical advantages the champ'speed line has an additional benefit: 20 percent of the energy used is recycled back into the production process. While the system's drives are braking, Bystronic glass converts kinetic energy into electrical energy and feeds it back into the network. This way, Bystronic glass upholds its "Preprocessing of Automotive Glass" core competence in respect of sustainability, conservation of resources and energy saving, while also systematically committing to the "Living for the Future" ecological concept as introduced at the glasstec 2008.

**Product Overview**

Bystronic Armatec GmbH

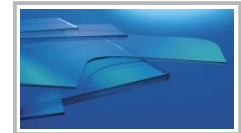
glasstec.01.13.01	Feeding and stacking systems
.....	
glasstec.01.13.02	Transport and handling systems
.....	
glasstec.02.01.01.02	Cutting technology for laminated safety glass
.....	
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
.....	
glasstec.03.04.01.02	PV system components

**Product Details**

Bystronic Armatec GmbH

glasstec.02.01.01.02	Cutting technology for laminated safety glass
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**Efficient complete solutions for flat glass cutting**



Bystronic glass cutting systems guarantee efficiency on highest level. The compatibility of the modularly designed system components is assured while facilitating a continuous production process – from storage to cutting solutions to automatic breaking and sorting systems. The extensive product range reaches from manual plants up to fully automatic complete solutions.

- \* Float glass cutting
- Efficient cutting systems for innovative customers
- \* Laminated glass cutting
- Versatile solutions for everyday requirements
- \* Breaking systems
- Manual and fully automatic solutions
- \* Sorting systems
- The fully automatic harp rack sorting system



### smart'lamicut

Bystronic glass' compact, semi-automatic cutting table for laminated glass:

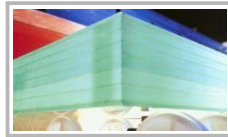
- Suitable for small to medium quantities - Time an energy efficient cutting, breaking and separating Bystronic CleverCuttingConcept: contact free breaking of the cutting edges, including avoidance of residual foil projection



glasstec.02.09.02.01 Laminated glass technology with foil for architectural glass

### first'lamiline and smart'lamiline

Characteristics of Bystronic: Providing compact production methods right from the start, with an exceptional cost/performance ratio, and offering a complete laminated glass manufacturing solution from one source.



first'lamiline - Choose from different sizes - highly accurate, automatic washing assembly of glass plates - fully automatic washing machine and pre-nip setting with production data recording (Laminoptic) for quality assurance included as standard - fast washing machine and pre-nip, both equipped with buffer tables for optimum productivity - diverse options including manufacturing of stepped glass - The lamination process is supported by high performance presses in combination with infrared and convectional heating - optimal energy efficiency, especially regarding the pre-nip

smart'lamiline - different system sizes available including U-shape - highly accurate, automatic assembly of glass plates - also available with fully automatic washing machine- and pre-nip setting with production data recording (Laminoptic) to guarantee consistently high quality - The lamination process is supported by high performance presses and a combination of infrared and convectional heating. - TOP production results thanks to the highest quality system components

## Bystronic Lenhardt GmbH



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### Company News

Bystronic Lenhardt GmbH

#### 07/05/2010 Top Secret Innovations at the Bystronic glass Stand: Innovative and flying high at glasstec 2010

The Bystronic glass Group will be presenting numerous innovations at the glasstec trade fair that is taking place in Düsseldorf from 28 September to 1 October 2010. Richard Jakob, CEO of the Bystronic glass Group revealed: "In addition to numerous new and more sophisticated machines, we will also be presenting our customers with some exclusive innovations in our TOP SECRET area". This closed area will only be accessible to invited or registered guests when accompanied by the Bystronic glass sales staff.



On its stand which covers an area of 1,200 square metres, Bystronic glass will be presenting system solutions for glass processing in the areas of building and automotive glass, not forgetting the solar industry. Moderated live machine presentations will enable visitors to gain an insight into the fascinating technologies. A small oasis of tranquillity will be situated in the centre of the stand in the eco-lounge; here interested visitors can learn about the Bystronic glass commitment motto "Living for the Future" and also relax a little.

"We want to fly high this year – and this is never more true than for glasstec",

explained Richard Jakob. Thanks to the two-storey construction, the visitors in the upper catering area will have a good view of the entire stand as well as the areas of Bystronic glass expertise: 1. Glass cutting The focus will be on the efficient sorting concept, first'sort and speed'lamicut, the newly developed cutting plant for laminated glass which includes numerous remarkable functions. 2. Laminated glass manufacturing Bystronic glass will be presenting the horizontal washer, a new horizontal glass washing machine which has been especially designed for laminated glass but has the flexibility to be used in other production areas. 3. Insulating glass manufacturing Decades of experience and numerous pioneering developments make Bystronic glass a highly qualified warm edge expert. As the only provider, the corporate group can offer its customers automated solutions for all of the standard warm edge spacers. Visitors will for example be able to see applications of the trendsetting TPS® technology as well as the Super Spacer® on stand. 4. Handling equipment Bystronic glass traditionally offers a large range of efficient handling equipment for flat glass and plate processing. Visitors can try out numerous lifts and suction frames on the stand themselves. 5. Solar technology No matter whether pre-processing, front-end or back-end: Bystronic glass has the right solar technology solution! With the photovoltaic TPA it is possible to effectively protect PV thin film modules from moisture prior to the laminating process. Furthermore, the film trimmer enables an automatic trimming of projections to be carried out prior to lamination. 6. Automotive glass pre-processing Bystronic launched a completely new generation of machines for the pre-processing of automotive glass, the champ'speed line, in spring 2010. A video presentation provides an insight into the machine technology from various views. 7. Window manufacturing With a multimedia presentation, Bystronic glass will be presenting the latest developments and efficient solutions in its latest core competence window manufacturing. 8. Service & Support For Bystronic glass, customer proximity and a worldwide after-sales support are inseparably connected to each other. At glasstec 2010, Bystronic glass will be devoting itself to this important subject with its own competence corner. Here, those who are interested can find out more about the subjects hotline, spare parts catalogue, service agreements and training courses.

**05/06/2010 Efficient buffering, storing and sorting of photovoltaic modules**

The market leader in the field of sorting systems for glass now also offers customer-specific solutions for the solar industry. Therefore, Bystronic glass's decades of experience in such systems, for example in insulating glass production now also applies to the handling of substrates or ready-made modules.



Bystronic glass offers sorting systems for buffer operation or the direct connection to a production line for thin-film solar modules. Customers obtain modular configurable solutions designed to meet their individual production requirements. "The sorting systems can be used in the front end for de-coupling the different production processes from each other as well as at the back end for sorting the ready-made modules prior to packaging," explains Pieder Berther, project engineer in the sales department of the Bystronic glass Technology Center Bystronic Maschinen AG.

The buffer and storage system Depending on size and composition, the substrates are stored either vertically, at an angle of 6°, or horizontally. Loading and unloading is carried out by means of conveyors, sorting carriages or robots. Depending on customer requirements, this can be done either according to the storing sequence (first-in, first-out principle), against the storing sequence (first-in, last-out principle) or individually in any order. The fixed storage systems or cartridges have more than 120 positions, which can be managed in a high-bay warehouse. "Our buffer and storage system is suitable for the storage of both substrates as well as ready-made modules with back rails and junction box – for all conventional glass sizes up to 2.20 x 2.60 metres," explains Pieder Berther. The system's cycle times can be adjusted according to the performance of the production line.

The sorting system In order to sort ready-made photovoltaic modules according to quality, performance classes, physical sizes or other features a sorting operation is required: After leaving production in the sequence of manufacture, the modules are temporarily stored and then removed at the appropriate time according to the sorting criteria. It is possible to integrate a number of inspection processes in advance – i.e. at the end of the production process and prior to storage and / or sorting. The sorted modules subsequently arrive at the automatic packing station.

"The buffer and storage system as well as the sorting system are characterised by solid design, high positioning accuracy and gentle handling of substrates and / or modules," Pieder Berther comments to highlight the features of the proven Bystronic glass quality. Apart from these mechanical advantages, the systems are also equipped with their own control system for seamless object tracking, including interfaces to the different processes and the MES (manufacturing execution system).

**06/14/2010 Relaunch: 2nd generation Bystronic glass compact'sealer**

KÖWA Isolierglas GmbH in Wackersdorf, Germany, has been working with the first Bystronic glass second generation compact'sealer since the beginning of 2010. "We were won over by both the machine's capabilities as well as the fast, expert service provided by Bystronic glass," explained KÖWA's Managing Director, Klaus Köhler.



The compact'sealer was originally designed as a start-up solution for automatic sealing of insulating glass units. As it has been in the industry for almost 40 years "start-up" is hardly the word to use to describe KÖWA, a member of the Uniglas group, and manufacturer of insulating glass. When they made contact with Bystronic glass they had already been producing the product on two insulating glass lines for many years; the larger of these lines was modernised only last year and equipped with the latest machines from Bystronic glass. The smaller of the two lines then needed a new sealing robot, which had to fit exactly into the available space. So the company, based in Eastern Bavaria, decided on the compact version of the sealing robot, among other things, because of the machine depth. "Bystronic glass was able to produce good references and ultimately convinced us not only about the machine's technology, but also in respect of the personal advice given to us by their expert sales team," recalled Klaus Köhler.

compact'sealer with new technical details Besides the compact'sealer's proven functions including a volume-controlled and easily accessible dosing system, no-contact conveyor through an air cushion rear wall, and a quick-release closure system for rapid nozzle changing, the latest version of the machine has a few extra technical details. By using a metal spatula which was already in use on its "big brother" – the "sealer" sealing robot, which locks the corners during the injection process, it is possible to achieve a much better quality at the corners. Furthermore, an additional feeler ensures even more accurate calculation of the required quantity of sealing material - even when the space between lites is uneven it is impossible to dispense too much, with resultant spillage. A special coating on the mixer prevents the sealing material from sticking and extends the intervals between cleaning. By implementing high-performance materials with outstanding surface qualities, the dosing unit's service life is also extended.

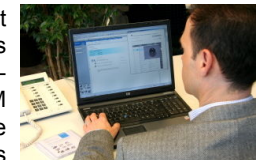
Compact and simply fast The staff at KÖWA are extremely pleased with the way the new compact'sealer operates. "It's a completely new generation of machine, that has made our work much easier," reported Peter Tauber, who, with Cornelia Krempl, is joint Production Manager at KÖWA. He added: "The machine is controlled on a 3D interface with sliders, so it's easy to operate and very accurate

even while wearing gloves. Just one person can quickly change the material drums, and the nozzles are flushed by simply actuating the operator knob while in automatic mode." The dosing pistons on the two materials components are synchronised during the mixing process. This means that in automatic operation it is possible to utilise the maximum amount of material available, therefore avoiding machine stoppages.

"On our smaller line we seal insulating glass units in very many standard sizes," continued Klaus Köhler, who last year saw a distinct increase in demand for triple insulating glass units – from a 10 percent share in 2008 to 2 percent in 2009. To meet this demand the sealing robot needed to be able to provide a high quality seal quickly and evenly, even on triple units. "With the compact'sealer we have acquired a machine that perfectly meets all our requirements," explained Production Manager Peter Tauber. In addition to the compact sealing robot, KÖWA has also been operating on the Bystronic glass insulating glass line mentioned at the beginning of this article since last year, with the company producing units up to 4.00 metres in length.

**05/06/2010 Customer Service 2.0 at Bystronic Lenhardt**

In line with all new plants, the Bystronic Lenhardt GmbH which is part of Bystronic glass Group, has now launched an optimised, spare-parts catalogue tailored specifically for customer machines. "In CD-ROM format this enables customers to easily identify the required parts and order them directly online. This speeds up the entire delivery process while helping to prevent any wrong orders", Harry Auer, Head of Customer Service summed up regarding the improvement.



The manufacturer of machines and plants for insulating glass production has provided a spare parts catalogue on CD-ROM for eight years now. "The parts catalogue is recognised by customers as an extremely useful tool having become firmly established with our customers," Harry Auer was pleased to report. However, there were various reasons for a modernisation: thanks to an improved search feature, which not only sorts keywords and machine structure, but which can also search various categories. The user can now find the appropriate machine part far more easily. Now, for example, wear parts such as seals or rollers can be collected into a group, while durable machine parts such as motors or bearings are located in their own specific category.

Intuitive Operation Each individual spare part is accompanied by a photo which immediately appears to the customer in the overview. "This not only makes it easier to identify the correct part, it is also in line with the current standards familiar to users in online shops", explained the Head of Bystronic Lenhardt Service.

In view of this the visual display and navigation also underwent a complete re-design. Customers can place the required parts into the shopping cart at the click of a mouse and then confirm the order straight away online. The customer is then immediately sent an order confirmation email. Alternatively, customers can also request an offer to match their requirements before actually making an order.

To ensure that the new spare parts catalogue is practice-oriented and user-friendly, Bystronic Lenhardt GmbH actively involved several customers in the development process: this enabled them to test the improved service throughout autumn 2009 for the first time, after which they offered their opinion. At the same time consideration was given to the fact that over the past few years users' habits have also changed in relation to internet browsers used: the new catalogue display and the online ordering process function fully independently of the actual internet browser used.

**05/06/2010      Faster and More Precise Automotive Glass Preprocessing**

With its champ'speed line, Bystronic glass is launching onto the market a brand-new generation of machines for preprocessing automotive glass. The line enables cutting, breaking, grinding and drilling of automotive glass with the utmost precision and flexibility. "The champ'speed line is currently the fastest machine of its quality on the market", says Jean-Philippe Chételat, Sales Manager for the Automotive Glass Sector at the Technology Center Bystronic Maschinen AG in Switzerland.



"We have listened to our customers' demands and now – with the champ'speed line – we have adapted our system solution for preprocessing automotive glass for the latest market requirements", explains Jean-Philippe Chételat. All the modules in the machine are individually matched to each other, the movements can be separately configured and, for example, optimized with regard to cycle time. The extremely stable, vibration-free process means that customers can work for many years with a consistently high quality level. "With a repeat accuracy of up to 99 percent, the champ'speed line outshines every other machine available on the market", the Sales Manager is pleased to report. As all the machine parts are within easy reach, working with the new system is an extremely ergonomic process.

Customized, Intelligent State-of-the-art Technology The heart of the system is the cutting and breaking unit. The cutting module contains a maintenance-free AC servo direct drive. Thanks to faster acceleration, it operates extremely dy-

namically with simultaneous maximum cutting accuracy. While doing so the machine automatically optimizes its speed to match the shape to be cut. Pre-cutting of the glass lite along with shape cutting and breaking is conducted in two process steps and therefore enables parallel processing. This in turn results in a definitive cycle time advantage along with high productivity. In addition to this, the use of a special, maintenance-free breaking tool guarantees perfect quality of the edge breaks.

Maximum Grinding Standard The grinding module can simultaneously use two grinding wheels enabling a fast bit change. "This means that, for example, automotive glass can be ground in different edge radii, without any need to change the tool in between", explains Jean-Philippe Chételat. As with the cutting module, the grinder module's rotating table is equipped with a maintenance-free CNC direct drive that operates with extreme precision without any play. Additional technical advantages are the automated system for height adjustment of the grinding wheel and a new, efficient cooling system, which ensures that the glass remains dry during processing.

With its champ'speed line, Bystronic glass provides not only a machine for preprocessing automotive glass but also one for processing glass in solar technology as well as for domestic appliances. "As market leader we guarantee the highest production and quality standards providing maximum productivity, outstanding performance, stringent tolerances in grinding precision and perfect edge-processing technology", says the Sales Manager.

Living for the Future Alongside the technical advantages the champ'speed line has an additional benefit: 20 percent of the energy used is recycled back into the production process. While the system's drives are braking, Bystronic glass converts kinetic energy into electrical energy and feeds it back into the network. This way, Bystronic glass upholds its "Preprocessing of Automotive Glass" core competence in respect of sustainability, conservation of resources and energy saving, while also systematically committing to the "Living for the Future" ecological concept as introduced at the glasstec 2008.

**07/19/2010      New Investment into Bystronic glass Machines**

Neuhausen-Hamberg (Germany), July 19, 2010. The glass processor Hansen Glass, based in the UK town of Kirkby, modernised its insulating glass production with the acquisition of a spacerbender COMBI from Bystronic glass. Alongside the frame-bending robot made of stainless steel, ideally suited for stainless-steel and plastic-stainless composite spacer bar profiles, the British glass processor also invested in a matching desiccant filling



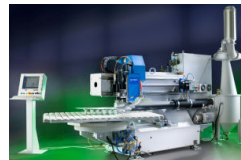
station and a butyl applicator.

After enjoying some excellent experience with cutting solutions made by the German-Swiss specialists in glass-processing machines, Hansen Glass once again decided to go for Bystronic glass quality products. "We are fully satisfied with every Bystronic glass machine, from the quotation phase through delivery and on to commissioning", explains Keith Hibbert of Hansen Glass in Kirkby near Liverpool. The company has been in contact with Bystronic glass since 2000: back then Hansen Glass purchased a solution for loading and glass customization that is still being used today. Keith says: "Right from the very start up to the present day, this system has more than fulfilled all our expectations. We use it five days a week, with three daily shifts and we are particularly impressed by the reliability of the machines."

Investment in the Future For Hansen Glass this current investment is of major significance: for many reasons, including legal regulations, the company decided at the end of 2009 to convert from manual preparation of spacer frames in insulating glass production to state-of-the-art machine technology. The new machines were commissioned at the start of January this year. This means that the company is now able to continuously manufacture top-quality insulating glass units – and to do so without any fluctuations in production. However, it wasn't just the machine technology that clinched the decision for the investment: "As far as we were concerned, the experience we had in terms of the excellent after-sales service and the intensive level of cooperation with Bystronic glass during the quotation phase, were vital criteria", recalls Keith who is perfectly glad to back up the outstanding reputation that Bystronic glass enjoys in the branch.

#### 05/06/2010 Innovative techniques for module production

A large part of manufacturing for photovoltaic modules incorporates handling and processing glass. Bystronic glass makes a significant contribution in all areas to ensure that the systems run smoothly and effectively.



The German-Swiss company is entirely at home processing glass: For more than 40 years it has been recognized for providing innovative machines, systems and services in glass processing. From basic components to automated, customer-specific complete solutions, Bystronic glass offers extraordinary concepts with unsurpassed quality – and the same applies to the Solar Industry.

Edge grinding of glass substrates Cleanly ground edges of substrates are absolutely essential to ensure a smooth production process for solar modules. High edge quality free from cracks and shell defects is the only way to prevent glass

breakage during the process. This is an important pre-condition for efficient and economical production since glass breakage is a relevant cost factor and always means a stoppage of the system. Whenever glass breakage occurs, the production systems must be run empty and cleaned. Then production has to be resumed again. "Grinding machines from Bystronic glass stand for the highest quality in ground glass edges. For many years the company has established a strong reputation and successful track record with machines of similar design for the automotive industry," explains Markus Lipp Sales Manager and Project Engineer in the Swiss Bystronic glass Technology Center. champ'speedgrind makes it possible to grind edges from a minimum finished dimension of 200 mm x 200 mm to a maximum finished dimension of 2200 mm x 2600 mm with C grind or K grind. The yield is 99.5 percent.

Thanks to a mineral cast machine bed, champ'speed-series machines are completely vibration-free and can therefore provide the greatest precision. Substrates can be ground with extremely fine tolerances of +/- 0.1 mm on absolutely perpendicular sides, even if the starting substrate has large deviations in the angles. As the machines are designed as polar grinding machines with a play-free table, both edges and corners are polished in one pass, with radius or facet. All axes are equipped with maintenance-free and highly dynamic CNC direct drives. The new spindle design works in seconds with two grinding wheels arranged one over the other. "Additional time advantages are derived first from an automatic correction of the grinding wheel diameter, with changeover to another module series or substrate size taking less than five minutes, for example, as well as from the use of an automatic changing system for grinding wheels," comments Markus Lipp in Machine Technology. Thanks to the modular layout of the series, champ'speed machines can be expanded to create large manufacturing cells with an integrated handling device and additional drilling machine.

Applying backrails automatically Backrails are used to fasten thin layer modules in place and to provide stability for modules with especially large surfaces. Tape or liquid adhesive is applied to modules of all sizes for this purpose. Bystronic glass Technology Center Bystronic Armatec provides semi or fully automatic systems for processing and applying backrails. They are available as a stand alone solution or can be integrated into existing lines. "Depending on the module size, up to four rails can be placed on one module at the same time, or four rails can be placed on two modules in twin mode. This process facilitates the shortest cycle times," explains Thomas Ommerle Sales Engineering Solar at Bystronic Armatec. Depending on the rail being processed, positioning accuracy is +/- 0.5 mm.

Bystronic glass provides customers with a system that positions backrails extremely efficiently. First the modules are automatically positioned in pairs on the system. Preparation of the backrails runs in parallel to this process with re-

removal of the rails from a cassette, cleaning, application of primer and adhesive and finally transfer to the assembly line. The rails are automatically positioned and placed on the back of the module. Then the backrails are pressed into place according to the type of adhesive used. In the sorting system, modules are temporarily separated and stored vertically according to performance class. "As soon as the appropriate number for a packaging unit is reached, the system automatically moves the modules on to the next station." Thomas Ommerle describes the range of options: "Professional packaging is available both horizontally with an automatic spacer insert and vertically in cardboard packaging with corresponding separating combs."

**05/06/2010 Bystronic glass Wins Large Order in Saudi Arabia**

The Bystronic glass Group has received a large multi-million Swiss francs order from Saudi Arabia. As 2009 drew to a close, Richard Jakob and Fahad Al-Harbi, Chairman of the Wajhat Glass & Aluminium Factory as well as Vice Chairman and CEO of the Al Harbi Holding, finalized the deal with the system's installation scheduled to begin in April 2010.



"Bystronic glass will be supplying all the equipment for a new production hall to be built in the Arabian desert", Richard Jakob, CEO of the Bystronic glass Group, commented. He went on to explain: "The hall will be handed over to the customer for immediate occupancy - a project of this magnitude is both exceptional and fascinating." The order also incorporates a cutting and sorting system, a fully-automated insulating glass line, handling systems along with lines for production of laminated safety glass and tempered glass. This will be the first installation of its kind where the system is directly connected to the furnace and insulating-glass line with an expansion option for the sorting system to include other processes. Until now, the Wajhat Glass & Aluminium Factory, which is a company of the Saudi Marble & Granite Factory Co., has concentrated on processing marble and granite – the acquisition of the Bystronic glass systems marks their entrance into the glass industry. The decision to commission Bystronic glass to fully equip the hall was made by the Saudi Arabian company on the basis of the quality on offer: Machines from the Bystronic glass Technology Center Bystronic Lenhardt GmbH had already left a very positive impression in the past on Fahad Al-Harbi's advisors.

**05/06/2010 Ergonomic glass handling: Lightweight top crane systems – for easy handling**

"Handling equipment is only popular if it is easy to use," states Stefan Herrmann, Branch Manager at Sencoglas in Nordhorn, commenting directly about a reason to provide the entire production hall with handling systems from the Bystronic glass group.



The entire hall at Nordhorn in Lower Saxony, which was commissioned in spring 2008, has a framework of lightweight top crane systems and lifts from the Bystronic glass Technology Center Bystronic Armatec. "At that time, the company asked for a fast and secure glass handling system, which could even be used by inexperienced operators," explains Dietmar Weichsel, who is selling Bystronic glass handling equipment in northern Germany. For this reason, he suggested a combination of equipment for moving light and heavy glass plates at a single work station. With this system, he met exactly the needs of the customer, for whom the safety of his employees is of paramount importance.

User-friendly equipment "We want colleagues to move even the lightest of loads with handling equipment and this can be achieved only if the equipment is easy to use", reports Stefan Herrmann from his experience. The Branch Manager especially appreciates the Easy-Lift from Bystronic glass: "Its thick hoisting tube, which compresses the air, allows extremely accurate operation," he explains and demonstrates this fact on the glass loader of the production line for laminated safety glass. In general, the handling equipment of the Easy-Lift type is characterised by its rigid connection between the suction frame and the crane track, facilitating exact positioning of the glass lites. At the same time, the aluminium construction keeps the weight of the equipment itself to a minimum.

An overview of the product range However, Sencoglas is not only working with the Easy-Lift from Bystronic glass. During the planning of the approximately 15,000 m2 production facility in Nordhorn, the Swiss-German supplier of system solutions for the manufacture of architectural and automotive glass was involved from the very beginning. This provides visitors to the Nordhorn-based Sencoglas factory with a good overview of Bystronic glass' handling systems product range: Single and two-column lifts, manipulators and suction frames, each running on lightweight top crane systems – almost all variants are available. "Thanks to the excellent advisory service, the selection of products and equipment for the entire hall this installation was extremely simple," Stefan Herrmann reports during the guided tour through the hall.

The excellent business relationship goes back more than ten years: At that time, Sencoglas purchased a number of companies in which handling equipment from the Technology Center Bystronic Armatec was already in use. Today,

the company is active in 24 locations at home and abroad – from glass cutting via screen printing to the production of insulating and laminated safety glass, the group is serving the entire value chain of glass. In doing so, machines of the Bystronic glass group are being used in almost every location. "In Nordhorn alone, we installed around 40 handling systems and suitable lightweight top crane systems," Dietmar Weichsel reports. In addition, there are lines for insulating and laminated safety glass production.

Advantageous handling The reasons for the continuation of the business relationship are obvious: "The products are convincing and save space especially the handling systems and can be used according to individual requirements because of their modular design," explains Stefan Herrmann. And last but not least, this also includes the excellent service, as he points out. "A relationship of trust is important to us. We greatly appreciate that a brief phone call will suffice for a member of the service staff to address the issue shortly afterwards. It is important to have a contact partner who has the technical expertise and is 100 % reliable at the same time."

### Product Overview

Bystronic Lenhardt GmbH

glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.08.02	Production equipment for spacers
glasstec.02.08.04	Edge deletion equipment
glasstec.02.08.05	Gas filling machines and gas devices
glasstec.02.08.06	Sealing techniques
glasstec.02.10.01	Washing machines and equipment
glasstec.02.10.03	Waste water treatment equipment
glasstec.03.04.01.02	PV system components

### Product Details

Bystronic Lenhardt GmbH

glasstec.02.08.06

Sealing techniques

#### Sealing robots

Sealing technology with new dimensions Common product characteristics:

- \* Automatic sealing of insulating glass units of different formats and dimensions
- \* Fast, volume-controlled dosing system
- \* Homogeneously sealed corners due to nozzle/spatula system
- \* Precise metering because of gear wheel metering technology



### Bystronic Maschinen AG



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**Company News**

Bystronic Maschinen AG

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**05/06/2010 Faster and More Precise Automotive Glass Preprocessing**

With its champ'speed line, Bystronic glass is launching onto the market a brand-new generation of machines for preprocessing automotive glass. The line enables cutting, breaking, grinding and drilling of automotive glass with the utmost precision and flexibility. "The champ'speed line is currently the fastest machine of its quality on the market", says Jean-Philippe Chételat, Sales Manager for the Automotive Glass Sector at the Technology Center Bystronic Maschinen AG in Switzerland.



"We have listened to our customers' demands and now – with the champ'speed line – we have adapted our system solution for preprocessing automotive glass for the latest market requirements", explains Jean-Philippe Chételat. All the modules in the machine are individually matched to each other, the movements can be separately configured and, for example, optimized with regard to cycle time. The extremely stable, vibration-free process means that customers can work for many years with a consistently high quality level. "With a repeat accuracy of up to 99 percent, the champ'speed line outshines every other machine available on the market", the Sales Manager is pleased to report. As all the machine parts are within easy reach, working with the new system is an extremely ergonomic process.

Customized, Intelligent State-of-the-art Technology The heart of the system is the cutting and breaking unit. The cutting module contains a maintenance-free AC servo direct drive. Thanks to faster acceleration, it operates extremely dynamically with simultaneous maximum cutting accuracy. While doing so the machine automatically optimizes its speed to match the shape to be cut. Pre-cutting of the glass lite along with shape cutting and breaking is conducted in two process steps and therefore enables parallel processing. This in turn results in a definitive cycle time advantage along with high productivity. In addition to this, the use of a special, maintenance-free breaking tool guarantees perfect quality of the edge breaks.

Maximum Grinding Standard The grinding module can simultaneously use two grinding wheels enabling a fast bit change. "This means that, for example, automotive glass can be ground in different edge radii, without any need to change the tool in between", explains Jean-Philippe Chételat. As with the cutting module, the grinder module's rotating table is equipped with a maintenance-free CNC direct drive that operates with extreme precision without any play. Additional technical advantages are the automated system for height adjustment of the grinding wheel and a new, efficient cooling system, which ensures that



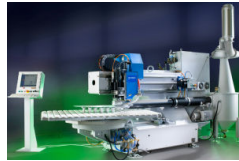
the glass remains dry during processing.

With its champ'speed line, Bystronic glass provides not only a machine for pre-processing automotive glass but also one for processing glass in solar technology as well as for domestic appliances. "As market leader we guarantee the highest production and quality standards providing maximum productivity, outstanding performance, stringent tolerances in grinding precision and perfect edge-processing technology", says the Sales Manager.

Living for the Future Alongside the technical advantages the champ'speed line has an additional benefit: 20 percent of the energy used is recycled back into the production process. While the system's drives are braking, Bystronic glass converts kinetic energy into electrical energy and feeds it back into the network. This way, Bystronic glass upholds its "Preprocessing of Automotive Glass" core competence in respect of sustainability, conservation of resources and energy saving, while also systematically committing to the "Living for the Future" ecological concept as introduced at the glasstec 2008.

#### 05/06/2010 Innovative techniques for module production

A large part of manufacturing for photovoltaic modules incorporates handling and processing glass. Bystronic glass makes a significant contribution in all areas to ensure that the systems run smoothly and effectively.



The German-Swiss company is entirely at home processing glass: For more than 40 years it has been recognized for providing innovative machines, systems and services in glass processing. From basic components to automated, customer-specific complete solutions, Bystronic glass offers extraordinary concepts with unsurpassed quality – and the same applies to the Solar Industry.

Edge grinding of glass substrates Cleanly ground edges of substrates are absolutely essential to ensure a smooth production process for solar modules. High edge quality free from cracks and shell defects is the only way to prevent glass breakage during the process. This is an important pre-condition for efficient and economical production since glass breakage is a relevant cost factor and always means a stoppage of the system. Whenever glass breakage occurs, the production systems must be run empty and cleaned. Then production has to be resumed again. "Grinding machines from Bystronic glass stand for the highest quality in ground glass edges. For many years the company has established a strong reputation and successful track record with machines of similar design for the automotive industry," explains Markus Lipp Sales Manager and Project Engineer in the Swiss Bystronic glass Technology Center. champ'speedgrind makes it possible to grind edges from a minimum finished dimension of 200 mm

x 200 mm to a maximum finished dimension of 2200 mm x 2600 mm with C grind or K grind. The yield is 99.5 percent.

Thanks to a mineral cast machine bed, champ'speed-series machines are completely vibration-free and can therefore provide the greatest precision. Substrates can be ground with extremely fine tolerances of +/- 0.1 mm on absolutely perpendicular sides, even if the starting substrate has large deviations in the angles. As the machines are designed as polar grinding machines with a play-free table, both edges and corners are polished in one pass, with radius or facet. All axes are equipped with maintenance-free and highly dynamic CNC direct drives. The new spindle design works in seconds with two grinding wheels arranged one over the other. "Additional time advantages are derived first from an automatic correction of the grinding wheel diameter, with changeover to another module series or substrate size taking less than five minutes, for example, as well as from the use of an automatic changing system for grinding wheels," comments Markus Lipp in Machine Technology. Thanks to the modular layout of the series, champ'speed machines can be expanded to create large manufacturing cells with an integrated handling device and additional drilling machine.

Applying backrails automatically Backrails are used to fasten thin layer modules in place and to provide stability for modules with especially large surfaces. Tape or liquid adhesive is applied to modules of all sizes for this purpose. Bystronic glass Technology Center Bystronic Armatec provides semi or fully automatic systems for processing and applying backrails. They are available as a stand alone solution or can be integrated into existing lines. "Depending on the module size, up to four rails can be placed on one module at the same time, or four rails can be placed on two modules in twin mode. This process facilitates the shortest cycle times," explains Thomas Ommerle Sales Engineering Solar at Bystronic Armatec. Depending on the rail being processed, positioning accuracy is +/- 0.5 mm.

Bystronic glass provides customers with a system that positions backrails extremely efficiently. First the modules are automatically positioned in pairs on the system. Preparation of the backrails runs in parallel to this process with removal of the rails from a cassette, cleaning, application of primer and adhesive and finally transfer to the assembly line. The rails are automatically positioned and placed on the back of the module. Then the backrails are pressed into place according to the type of adhesive used. In the sorting system, modules are temporarily separated and stored vertically according to performance class. "As soon as the appropriate number for a packaging unit is reached, the system automatically moves the modules on to the next station." Thomas Ommerle describes the range of options: "Professional packaging is available both horizontally with an automatic spacer insert and vertically in cardboard packaging with corresponding separating combs."

**05/06/2010 Efficient buffering, storing and sorting of photovoltaic modules**

The market leader in the field of sorting systems for glass now also offers customer-specific solutions for the solar industry. Therefore, Bystronic glass's decades of experience in such systems, for example in insulating glass production now also applies to the handling of substrates or ready-made modules.



Bystronic glass offers sorting systems for buffer operation or the direct connection to a production line for thin-film solar modules. Customers obtain modular configurable solutions designed to meet their individual production requirements. "The sorting systems can be used in the front end for de-coupling the different production processes from each other as well as at the back end for sorting the ready-made modules prior to packaging," explains Pieder Berther, project engineer in the sales department of the Bystronic glass Technology Center Bystronic Maschinen AG.

The buffer and storage system Depending on size and composition, the substrates are stored either vertically, at an angle of 6°, or horizontally. Loading and unloading is carried out by means of conveyors, sorting carriages or robots. Depending on customer requirements, this can be done either according to the storing sequence (first-in, first-out principle), against the storing sequence (first-in, last-out principle) or individually in any order. The fixed storage systems or cartridges have more than 120 positions, which can be managed in a high-bay warehouse. "Our buffer and storage system is suitable for the storage of both substrates as well as ready-made modules with back rails and junction box – for all conventional glass sizes up to 2.20 x 2.60 metres," explains Pieder Berther. The system's cycle times can be adjusted according to the performance of the production line.

The sorting system In order to sort ready-made photovoltaic modules according to quality, performance classes, physical sizes or other features a sorting operation is required: After leaving production in the sequence of manufacture, the modules are temporarily stored and then removed at the appropriate time according to the sorting criteria. It is possible to integrate a number of inspection processes in advance – i.e. at the end of the production process and prior to storage and / or sorting. The sorted modules subsequently arrive at the automatic packing station.

"The buffer and storage system as well as the sorting system are characterised by solid design, high positioning accuracy and gentle handling of substrates and / or modules," Pieder Berther comments to highlight the features of the proven Bystronic glass quality. Apart from these mechanical advantages, the systems

are also equipped with their own control system for seamless object tracking, including interfaces to the different processes and the MES (manufacturing execution system).

**05/06/2010 Bystronic glass Wins Large Order in Saudi Arabia**

The Bystronic glass Group has received a large multi-million Swiss francs order from Saudi Arabia. As 2009 drew to a close, Richard Jakob and Fahad Al-Harbi, Chairman of the Wajhat Glass & Aluminium Factory as well as Vice Chairman and CEO of the Al Harbi Holding, finalized the deal with the system's installation scheduled to begin in April 2010.



"Bystronic glass will be supplying all the equipment for a new production hall to be built in the Arabian desert", Richard Jakob, CEO of the Bystronic glass Group, commented. He went on to explain: "The hall will be handed over to the customer for immediate occupancy - a project of this magnitude is both exceptional and fascinating." The order also incorporates a cutting and sorting system, a fully-automated insulating glass line, handling systems along with lines for production of laminated safety glass and tempered glass. This will be the first installation of its kind where the system is directly connected to the furnace and insulating-glass line with an expansion option for the sorting system to include other processes. Until now, the Wajhat Glass & Aluminium Factory, which is a company of the Saudi Marble & Granite Factory Co., has concentrated on processing marble and granite – the acquisition of the Bystronic glass systems marks their entrance into the glass industry. The decision to commission Bystronic glass to fully equip the hall was made by the Saudi Arabian company on the basis of the quality on offer: Machines from the Bystronic glass Technology Center Bystronic Lenhardt GmbH had already left a very positive impression in the past on Fahad Al-Harbi's advisors.

**07/05/2010 Top Secret Innovations at the Bystronic glass Stand: Innovative and flying high at glasstec 2010**

The Bystronic glass Group will be presenting numerous innovations at the glasstec trade fair that is taking place in Düsseldorf from 28 September to 1 October 2010. Richard Jakob, CEO of the Bystronic glass Group revealed: "In addition to numerous new and more sophisticated machines, we will also be presenting our customers with some exclusive innovations in our TOP SECRET area".



This closed area will only be accessible to invited or registered guests when accompanied by the Bystronic glass sales staff.

On its stand which covers an area of 1,200 square metres, Bystronic glass will be presenting system solutions for glass processing in the areas of building and automotive glass, not forgetting the solar industry. Moderated live machine presentations will enable visitors to gain an insight into the fascinating technologies. A small oasis of tranquillity will be situated in the centre of the stand in the eco-lounge; here interested visitors can learn about the Bystronic glass commitment motto "Living for the Future" and also relax a little.

"We want to fly high this year – and this is never more true than for glasstec", explained Richard Jakob. Thanks to the two-storey construction, the visitors in the upper catering area will have a good view of the entire stand as well as the areas of Bystronic glass expertise:

1. Glass cutting The focus will be on the efficient sorting concept, first'sort and speed'lamicut, the newly developed cutting plant for laminated glass which includes numerous remarkable functions.
2. Laminated glass manufacturing Bystronic glass will be presenting the horizontal washer, a new horizontal glass washing machine which has been especially designed for laminated glass but has the flexibility to be used in other production areas.
3. Insulating glass manufacturing Decades of experience and numerous pioneering developments make Bystronic glass a highly qualified warm edge expert. As the only provider, the corporate group can offer its customers automated solutions for all of the standard warm edge spacers. Visitors will for example be able to see applications of the trendsetting TPS® technology as well as the Super Spacer® on stand.
4. Handling equipment Bystronic glass traditionally offers a large range of efficient handling equipment for flat glass and plate processing. Visitors can try out numerous lifts and suction frames on the stand themselves.
5. Solar technology No matter whether pre-processing, front-end or back-end: Bystronic glass has the right solar technology solution! With the photovoltaic TPA it is possible to effectively protect PV thin film modules from moisture prior to the laminating process. Furthermore, the film trimmer enables an automatic trimming of projections to be carried out prior to lamination.
6. Automotive glass pre-processing Bystronic launched a completely new generation of machines for the pre-processing of automotive glass, the champ'speed line, in spring 2010. A video presentation provides an insight into the machine technology from various views.
7. Window manufacturing With a multimedia presentation, Bystronic glass will be presenting the latest developments and efficient solutions in its latest core competence window manufacturing.
8. Service & Support For Bystronic glass, customer proximity and a worldwide after-sales support are inseparably connected to each other. At glasstec 2010, Bystronic glass will be devoting itself to this important subject with its own competence corner. Here, those who are interested can find out more about the subjects hotline, spare parts catalogue, service agreements and training courses.

**06/14/2010 Relaunch: 2nd generation Bystronic glass compact'sealer**

KÖWA Isolierglas GmbH in Wackersdorf, Germany, has been working with the first Bystronic glass second generation compact'sealer since the beginning of 2010. "We were won over by both the machine's capabilities as well as the fast, expert service provided by Bystronic glass," explained KÖWA's Managing Director, Klaus Köhler.



The compact'sealer was originally designed as a start-up solution for automatic sealing of insulating glass units. As it has been in the industry for almost 40 years "start-up" is hardly the word to use to describe KÖWA, a member of the Uniglas group, and manufacturer of insulating glass. When they made contact with Bystronic glass they had already been producing the product on two insulating glass lines for many years; the larger of these lines was modernised only last year and equipped with the latest machines from Bystronic glass. The smaller of the two lines then needed a new sealing robot, which had to fit exactly into the available space. So the company, based in Eastern Bavaria, decided on the compact version of the sealing robot, among other things, because of the machine depth. "Bystronic glass was able to produce good references and ultimately convinced us not only about the machine's technology, but also in respect of the personal advice given to us by their expert sales team," recalled Klaus Köhler.

compact'sealer with new technical details Besides the compact'sealer's proven functions including a volume-controlled and easily accessible dosing system, no-contact conveyor through an air cushion rear wall, and a quick-release closure system for rapid nozzle changing, the latest version of the machine has a few extra technical details. By using a metal spatula which was already in use on its "big brother" – the "sealer" sealing robot, which locks the corners during the injection process, it is possible to achieve a much better quality at the corners. Furthermore, an additional feeler ensures even more accurate calculation of the required quantity of sealing material - even when the space between lites is uneven it is impossible to dispense too much, with resultant spillage. A special coating on the mixer prevents the sealing material from sticking and extends the intervals between cleaning. By implementing high-performance materials with outstanding surface qualities, the dosing unit's service life is also extended.

Compact and simply fast The staff at KÖWA are extremely pleased with the way the new compact'sealer operates. "It's a completely new generation of machine, that has made our work much easier," reported Peter Tauber, who, with Cornelia

Krempf, is joint Production Manager at KÖWA. He added: "The machine is controlled on a 3D interface with sliders, so it's easy to operate and very accurate even while wearing gloves. Just one person can quickly change the material drums, and the nozzles are flushed by simply actuating the operator knob while in automatic mode." The dosing pistons on the two materials components are synchronised during the mixing process. This means that in automatic operation it is possible to utilise the maximum amount of material available, therefore avoiding machine stoppages.

"On our smaller line we seal insulating glass units in very many standard sizes," continued Klaus Köhler, who last year saw a distinct increase in demand for triple insulating glass units – from a 10 percent share in 2008 to 2 percent in 2009. To meet this demand the sealing robot needed to be able to provide a high quality seal quickly and evenly, even on triple units. "With the compact sealer we have acquired a machine that perfectly meets all our requirements," explained Production Manager Peter Tauber. In addition to the compact sealing robot, KÖWA has also been operating on the Bystronic glass insulating glass line mentioned at the beginning of this article since last year, with the company producing units up to 4.00 metres in length.

**05/06/2010 Ergonomic glass handling: Lightweight top crane systems – for easy handling**

"Handling equipment is only popular if it is easy to use," states Stefan Herrmann, Branch Manager at Sencoglas in Nordhorn, commenting directly about a reason to provide the entire production hall with handling systems from the Bystronic glass group.



The entire hall at Nordhorn in Lower Saxony, which was commissioned in spring 2008, has a framework of lightweight top crane systems and lifts from the Bystronic glass Technology Center Bystronic Armatec. "At that time, the company asked for a fast and secure glass handling system, which could even be used by inexperienced operators," explains Dietmar Weichsel, who is selling Bystronic glass handling equipment in northern Germany. For this reason, he suggested a combination of equipment for moving light and heavy glass plates at a single work station. With this system, he met exactly the needs of the customer, for whom the safety of his employees is of paramount importance.

User-friendly equipment "We want colleagues to move even the lightest of loads with handling equipment and this can be achieved only if the equipment is easy to use", reports Stefan Herrmann from his experience. The Branch Manager especially appreciates the Easy-Lift from Bystronic glass: "Its thick hoisting tube, which compresses the air, allows extremely accurate operation," he explains and

demonstrates this fact on the glass loader of the production line for laminated safety glass. In general, the handling equipment of the Easy-Lift type is characterised by its rigid connection between the suction frame and the crane track, facilitating exact positioning of the glass lites. At the same time, the aluminium construction keeps the weight of the equipment itself to a minimum.

An overview of the product range However, Sencoglas is not only working with the Easy-Lift from Bystronic glass. During the planning of the approximately 15,000 m2 production facility in Nordhorn, the Swiss-German supplier of system solutions for the manufacture of architectural and automotive glass was involved from the very beginning. This provides visitors to the Nordhorn-based Sencoglas factory with a good overview of Bystronic glass' handling systems product range: Single and two-column lifts, manipulators and suction frames, each running on lightweight top crane systems – almost all variants are available. "Thanks to the excellent advisory service, the selection of products and equipment for the entire hall this installation was extremely simple," Stefan Herrmann reports during the guided tour through the hall.

The excellent business relationship goes back more than ten years: At that time, Sencoglas purchased a number of companies in which handling equipment from the Technology Center Bystronic Armatec was already in use. Today, the company is active in 24 locations at home and abroad – from glass cutting via screen printing to the production of insulating and laminated safety glass, the group is serving the entire value chain of glass. In doing so, machines of the Bystronic glass group are being used in almost every location. "In Nordhorn alone, we installed around 40 handling systems and suitable lightweight top crane systems," Dietmar Weichsel reports. In addition, there are lines for insulating and laminated safety glass production.

Advantageous handling The reasons for the continuation of the business relationship are obvious: "The products are convincing and save space especially the handling systems and can be used according to individual requirements because of their modular design," explains Stefan Herrmann. And last but not least, this also includes the excellent service, as he points out. "A relationship of trust is important to us. We greatly appreciate that a brief phone call will suffice for a member of the service staff to address the issue shortly afterwards. It is important to have a contact partner who has the technical expertise and is 100 % reliable at the same time."

05/06/2010 Customer Service 2.0 at Bystronic Lenhardt

In line with all new plants, the Bystronic Lenhardt GmbH which is part of Bystronic glass Group, has now launched an optimised, spare-parts catalogue tailored specifically for customer machines. "In CD-ROM format this enables customers to easily identify the required parts and order them directly online. This speeds up the entire delivery process while helping to prevent any wrong orders", Harry Auer, Head of Customer Service summed up regarding the improvement.



The manufacturer of machines and plants for insulating glass production has provided a spare parts catalogue on CD-ROM for eight years now. "The parts catalogue is recognised by customers as an extremely useful tool having become firmly established with our customers," Harry Auer was pleased to report. However, there were various reasons for a modernisation: thanks to an improved search feature, which not only sorts keywords and machine structure, but which can also search various categories. The user can now find the appropriate machine part far more easily. Now, for example, wear parts such as seals or rollers can be collected into a group, while durable machine parts such as motors or bearings are located in their own specific category.

Intuitive Operation Each individual spare part is accompanied by a photo which immediately appears to the customer in the overview. "This not only makes it easier to identify the correct part, it is also in line with the current standards familiar to users in online shops", explained the Head of Bystronic Lenhardt Service. In view of this the visual display and navigation also underwent a complete redesign. Customers can place the required parts into the shopping cart at the click of a mouse and then confirm the order straight away online. The customer is then immediately sent an order confirmation email. Alternatively, customers can also request an offer to match their requirements before actually making an order.

To ensure that the new spare parts catalogue is practice-oriented and user-friendly, Bystronic Lenhardt GmbH actively involved several customers in the development process: this enabled them to test the improved service throughout autumn 2009 for the first time, after which they offered their opinion. At the same time consideration was given to the fact that over the past few years users' habits have also changed in relation to internet browsers used: the new catalogue display and the online ordering process function fully independently of the actual internet browser used.

Product Overview

Bystronic Maschinen AG

glasstec.01.13.01	Feeding and stacking systems
glasstec.01.13.02	Transport and handling systems
glasstec.01.13.03	Conveying, sorting and storage facilities
glasstec.01.13.05	Warehouse technology
glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.03	Devices for coating removal
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.01.04.02	Thermal snapping devices
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.03.01.03	Grinding techniques for formed glass
glasstec.02.05.01	Laser-isolating technology
glasstec.02.05.03	Laser-removing technology
glasstec.03.03	Automotive glass
glasstec.03.04.01.02	PV system components

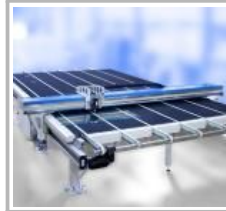
**Product Details**

Bystronic Maschinen AG

glasstec.02.01.01.01 Cutting technology for float glass

**speed'cut M**

Efficient cutting systems for innovative customers: Horizontal glass cutting systems for individual requirements  
speed'cut - Dynamic shape cutting with maximum precision - Accurate cutting of rectangles and complex shapes - Excellent acceleration and highest cutting speed of up to 300m/min. due to the latest linear drive technology - Individual, tailor-made customer solutions due to modular concept - Economical and reliable 24/7 operation - Modern control with statistical data tools - Up to a 20% reduction on energy consumption



glasstec.02.01.01.02 Cutting technology for laminated safety glass

**LAMICUT**

- Effective and precise cutting and separating of laminated glass - Fully automatic production flow process in X, Y and Z - Compact, space saving design - Options: edge deleting and shape cutting for float and low-E glass



glasstec.02.01.04.02 Thermal snapping devices

**Manuelle bis vollautomatische Lösungen**

Vollautomatische Brechsysteme - Individuelle Anpassung auf kundenspezifische Bedürfnisse

Produktangebot:

\* Statische Brechsysteme für Float- und Low-E-Glas (X-, Y-, Z- und Borten-Brechen) \* Dynamische Brechsysteme für Floatglas (X- und Y-Brechen) \* Verarbeitbare Glasdicke 3-19 mm

glasstec.02.02

Drilling technology

**champ'drill**

- Fully automatic double head drilling machine - Ideal for sidelites and backlites - Best drilling and quality performance - Variable applications: online and offline - Can also be integrated in non-Bystronic lines - Short setup times - Option: Fast four-hole drilling solution through TWIN system configuration



**CEFLA Finishing Group**

Address	Via Bicocca, 14/c 40026 Imola / BO Italy
Phone	+39 0542 653441
Fax	+39 0542 653444
Internet address	www.cefla-finishinggroup.com
E-Mail	cefla.finishing@cefla.it
Stand	Hall 16, A60 (Page 652)

**Product Overview**

CEFLA Finishing Group

glasstec.02.03.08.01.01 Screen printing techniques

glasstec.02.03.08.01.04 Other screen printing machines

glasstec.02.06.05 Dryers and decorating technology

glasstec.03.10.03.01.06 Coating of flat glass

glasstec.03.10.03.01.06 Coating of sand-blasted glass

glasstec.21.02 Special offers for glass trade / crafts

**Product Details**

CEFLA Finishing Group

glasstec.02.03.08.01.01 Screen printing techniques

**T20 3 STP\_P**

Printing machine suitable to reproduce the wood pattern on a flat surface by means of three photo-engraved rollers ensuring a high-precision ink application.



glasstec.02.03.08.01.04 Other screen printing machines

**SMARTPRINT 300 - COATING AND PRINTING LINE**

Modular solutions on request to work with both panels or mouldings, with solvent based, waterborne and UV acrylic coatings.

**CER - CERFOILS**

Address	85, Rue Castellion 01117 Oyonnax France
Phone	+33 4 74732600
Fax	+33 4 74732601
Internet address	www.cer.tm.fr
E-Mail	ot@cer.tm.fr
Stand	Hall 12, A17 (Page 636)

**Product Overview**

CER - CERFOILS

glasstec.02.03.08.04 Other printing technology

**Product Details**

CER - CERFOILS

glasstec.02.03.08.04 Other printing technology

**Presentation of our range of machines**

All our machines have been developed in order to allow easy and precise adjustment of all printing parameters accurately controlled during production for a constant quality.

Our machines can be produced in standard version or equipped with different devices and accessories, depending on the component on the printing process.

- \* Slide table
- \* Mechanical and numerical indexer
- \* Pick and place to load and unload
- \* Motorized foil advance
- \* Automatic feeding
- \* Assembling station (WA)
- \* Quality control station (CVI)
- \* Registration through camera or fibre optic.

We identify 3 groups of machines :

- \* Pneumatic machines (model beginning by "P") from 300 to 2.400 Kg of theoretical power for direct printing onto objects.
- \* Hydraulic machines (model beginning by "H") from 5-20 tonnes for a high pressure printing for objects with large dimensions.

### Champion Glass Machine Co., Ltd.

Address	No. 1 Xingye 3 Road, Guangdong 528313 Shunde, Guangdong China (Rep.)
Phone	+86 757 23833201
Fax	+86 757 23313082
Internet address	www.zhuodacn.com
E-Mail	zhuoda@zhuodacn.com
Stand	Hall 12, F35 (Page 636)

#### Product Overview

Champion Glass Machine Co., Ltd.

glasstec.02.03.01.01 Grinding techniques for straight edges

#### Product Details

Champion Glass Machine Co., Ltd.

glasstec.02.03.01.01 Grinding techniques for straight edges

#### TG351B

Machine Brief Description This machine is used for rough and fine grinding and polishing of beveling edge of flat glass as well as the grinding of bottoms. Through a 3-axial automatic controller, PLC and HMI are adopted to control and display, operator can preset the thickness of glass to be processed, the remained thickness after grinding and width of beveling edge. The grinding speed can be changed by stageless transmission.



Major Technical Specification Processing speed : 0.6m/min-6m/min Bevel angle : 3 o -45 o Max. bevel width : 35mm Min. glass processing size : 60mm×60mm Glass thickness : 3mm-19mm Height of worktable : 810mm Weight : 5000kg Electricity : 380V/50Hz Total power : 21.5KW Overall dimension : 7810mm×1510.5mm×2235mm

#### TG351B

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### CiT GmbH

Address	Böhmerwaldstr. 30 85368 Moosburg Germany
Phone	+49 8761 725556
Fax	+49 8761 7273998
Internet address	www.leleelaser.com
E-Mail	zhang8161@yahoo.com
Stand	Hall 14, D42 (Page 644)



## Product Overview

CiT GmbH

glasstec.02.05.02	Laser-marking technology
glasstec.21.03	Special offers for architects

## Product Details

CiT GmbH

glasstec.02.05.02	Laser-marking technology
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### Super UV Laser Marking System

UV Laser has the short wavelength, and focus the energy concentratively, especially featuring in Cooling Processing. This method can directly break the chemical bond linking with the material without heating outside. Thus it is an ideal tool which is superior to traditional ones. Lelee UV laser processing system uses high frequency Diode Pumped Solid Laser (DPSL) as the source and integrates optical reshaping system with high speed digital scan lens system to realize high precision and accuracy in markings. Meanwhile, the self-developed marking software MARKIT is system integrated, which can mark QR code, images, and characters on all metal surfaces and lots of non-metal materials. It is widely used in the following areas: electrical components, integrated chips, electric appliance, communication equipments, tools, precision machinery, glass frames, clocks and watches, accessories, automotive accessories, plastic buttons, construction material, packing, PVC pipes and medical instruments processing and manufacturing.

The system is supplied with leading MARKIT lasering software package. Advanced functions include barcodes, Data Matrix™, UID, photo lasering wizard, dials & scales assistant, multi-plate matrix wizard and much more.

## Citala



Address	1277 Reamwood Ave. 94089 Sunnyvale, CA USA
Phone	+1 408 548-8500
Fax	+1 408 745-1820
Internet address	www.citala.com
E-Mail	
Stand	Hall 13, B61-8 (Page 640)

## Company News

Citala

**06/29/2010 Citala to exhibit at GlassTec 2010, unveiling improved low voltage, white and grey switchable film, for use in Privacy glass**

Come visit us at GlassTec, Sep 28- Oct 1, 2010, in Dusseldorf Germany, at the American Pavilion. Citala will demonstrate enhanced product line of switchable smart films.

Sunnyvale California, July/1/2010: Citala announced today that its enhanced Onyx product line of switchable smart film will be demonstrated at the glass expo GlassTec 2010 in Dusseldorf, Germany, this fall. Come visit us at the American Pavilion at:

GlassTec show information: GlassTech 2010 Bi annual international conference and trade show for the glass industry: materials, equipment and products. Place: Dusseldorf Germany Dates: Sep 28- Oct 1, 2010 Booth: Hall 13 / B61-8

Citala Onyx is a family of electrically switchable optical shutter films. The product line includes films in several shades of white, grey and near black, which are powered by voltages, ranging from 110v to 24v AC. Located in the heart of the Silicon Valley, California USA, the Onyx film is manufactured in a roll-to-roll process in a clean-room environment. The film is supplied in long rolls. Citala



customers routinely laminate Onyx films on glass with PVB or EVA interlayers, to create privacy glass doors, windows and partitions.

For Onyx advantages click here: <http://www.citala.com/images/stories/citala/citala%20PDF/onyx>

A leader in flexible displays, Citala is the pioneer of a flexible reflective display that represents a paradigm shift in the display arena. The company's proprietary technology offers a host of benefits, including true flexibility to capture limitless design opportunities. Moreover, its thin and flexible displays offer exceptional reflective readability, low power consumption, and interactive capabilities. Citala's flexible display technology enables the creation of innovative products across a wide range of markets such as smart cards, portable electronics, home appliances, health care, handheld devices, sports equipment, and more. Laminated on glass, Onyx is regularly used by architects and builders for permanent installations of privacy glass in residential and commercial structures. Citala is privately held and headquartered in Tel Aviv, Israel, with a wholly owned subsidiary located in Sunnyvale, California. (www.citala.com).

For more information: In Europe contact: [Sales\\_Europe@Citala.com](mailto:Sales_Europe@Citala.com) In America: [Sales\\_America@Citala.com](mailto:Sales_America@Citala.com) In Asia contact: [Sales\\_Fareast@Citala.com](mailto:Sales_Fareast@Citala.com)

### Product Overview

Citala

glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.03.02.02.01	Laminated safety glass
glasstec.03.02.02.02	Laminated glass, synthetic-coated
glasstec.03.02.02.04	Laminated glass (other)

### Cleanfix Abfallservice GmbH

Address	Leimberg 9 52222 Stolberg Germany
Phone	+49 2402 97467-0
Fax	+49 2402 97467-17
Internet address	www.cleanfix.ac
E-Mail	j.bellut@cleanfix.ac
Stand	Hall 14, A24 (Page 644)

### Company News

Cleanfix Abfallservice GmbH

#### 06/21/2010 Product

The flat glass industry had long been looking for methods to clean the roller surface of the lehr and the lift out rollers (LOR) on-site. Common cleaning procedures consistently cause production delays and loss in quality. Moreover, the cleaning of the LOR affects the running glass production.

The disassembly and reassembly of the rollers is always time- and cost-consuming. Frequently, the reassembly damages the roller surface thus causing consequential costs and production downtimes. The result is rarely satisfactory.

Our procedure is flexible and individual. It enables the delicate on-site handling of the LOR and lehr rollers. This cleaning method neither damages the roller surface nor the glass. The result is convincing.

### Product Overview

Cleanfix Abfallservice GmbH

glasstec.02.11.02	Replacement and spare parts
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## CMS Brembana



Address	Via Caravaggi s/n 24040 Levate / BG Italy
Phone	+39 035 2057207
Fax	+39 035 2057154
Internet address	www.cms.it
E-Mail	glass@cms.it
Stand	Hall 16, A19 (Page 652)

### Product Overview

CMS Brembana

glasstec.01.13.01	Feeding and stacking systems
glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.01.04.02	Thermal snapping devices
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.03.05	Polishing technology

### Product Details

CMS Brembana

glasstec.02.01.01.01 Cutting technology for float glass

#### Tecnometal TL 3.70 / 6.20



Tilting table with 4 cutting heads for straight and shaped cutting of glass up to 25 mm thickness.

#### - High Productivity -

The motorization characterized by a high inertia and the rack sliding system with rounded guides allow very fast cutting procedures increasing the production output. The acceleration of the axes from straight cutting to shape cutting is automatically governed by the latest OSAI NC.

#### - Quality -

According to the thickness of the glass, the machine governs automatically both the cutting pressure and also the cutting oil flow which depends on the cutting speed.

#### - Practicle -

The scoring pressure is automatically governed depending on the head in use, in this way it is possible to vary the glass sheet thickness and the type of cut without breaking the work cycle. Thanks to a system of sensors is possible to detect automatically the limit of each glass sheet to shift to the following cutting operation.

#### Tecnometal TL 3.70 / 6.20



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glasstec.02.01.01.02 Cutting technology for laminated safety glass

**Tecnometal LM 3.30 / 4.60**

Laminated glass cutting table.



- Quality -

Thanks to the SFERA system (Patented) tilting top and double fulcrums, the high quality of the cutting is guaranteed.

- Breakout Control -

The tilting system and the pressors system is continuously controlled by proportional valves. The tilting system is governed by a linear actuator.

- PVB cutting -

Effected by means of a lamp with medium fast waves and the choice between the passage of a cutter or a tearing off system.

**Tecnometal LM 3.30 / 4.60**

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The tilting system and the pressors system is continuously controlled by proportional valves. The tilting system is governed by a linear actuator.

- PVB cutting -

Effected by means of a lamp with medium fast waves and the choice between the passage of a cutter or a tearing off system.

glasstec.02.02

Drilling technology

**DELTADRILL - Vertical drilling machines**

Vertical drilling machines characterised by a high productivity level and proposed in several versions: from 1 to 2 stations, from 1 to 2 pairs of drilling spindles. Every single version can be combined with load and unload mechanical hands that can make the lines completely automatic.



**DELTADRILL - Vertical drilling machines**

Vertical drilling machines characterised by a high productivity level and proposed in several versions: from 1 to 2 stations, from 1 to 6 pairs of drilling spindles. Every single version can be combined with load and unload mechanical hands that can make the lines completely automatic.



**EASYTOOLS - Vertical drilling/milling machines**

Series of vertical drilling/milling machines that can easily and quickly execute complex drilling and milling cycles on every single glass sheet.



Easy tools can make use of:

an 8-station double tool crib a patented water cushion system that can mill

treated glass sheets (low emission) innovative systems for centering and locking glass sheets, thus providing for a high accuracy degree on the distance between the centres of the holes.

**EASYTOOLS - Vertical drilling/milling machines**

Series of vertical drilling/milling machines that can easily and quickly execute complex drilling and milling cycles on every single glass sheet.



Easy tools can make use of:

an 8-station double tool crib a patented water cushion system that can mill treated glass sheets (low emission) innovative systems for centering and locking glass sheets, thus providing for a high accuracy degree on the distance between the centres of the holes.

**Condat**



Address	104, Avenue Frederic Mistral 38670 Chasse-sur-Rhone France
Phone	+33 4 78073838
Fax	+33 4 78073800
Internet address	www.condat-lubricants.com
E-Mail	info@condat.fr
Stand	Hall 13, F38 (Page 640)

**Product Overview**

Condat

glasstec.01.02.03	Lubricators and coolants
glasstec.02.11.08.02	Chemical grinding and polishing materials
glasstec.02.11.08.03	Chemical coolants
glasstec.02.12.05	Waste water treatment

**Product Details**

Condat

glasstec.02.12.05	Waste water treatment
-------------------	-----------------------

**Lubricants : underground construction**

Present for many years in the field of underground operations, CONDAT was able to participate in the market's development by concentrating on the environmental and safety aspect.

**Consystem GmbH**

Address	Industriestr. 80 40764 Langenfeld Germany
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E-Mail	mail@consystem.de
Stand	Hall 11, E05 (Page 632)

**Company News**

Consystec GmbH

**06/10/2010 competence in glass+stainless steel**

first-time exhibitor at glasstec 2010. Production and distribution of float glass, tempered glass, various stainless steel fittings for glass plates, totems, pylons, partition walls, glass shelves fixed on wires, mirrors, store and counter constructions, splash guards, discretion walls, UV-glued glass brochure holder and glass document storer.



**Product Overview**

Consystec GmbH

- glasstec.02.07.02 Components and accessories for display glass technology
- .....
- glasstec.02.11.05 Spacers
- .....
- glasstec.03.01.01 Float and mirror glass
- .....
- glasstec.03.02.01 Tempered glass
- .....
- glasstec.03.02.06 Display glass
- .....
- glasstec.03.02.09 Curved glass
- .....
- glasstec.03.07.01.01 Balcony glazing
- .....
- glasstec.03.07.12 Worked flat glass (general)
- .....
- glasstec.03.10.01.01.01 Specialist construction (shower partition walls)
- .....
- glasstec.03.10.01.01.03 Ballustrades
- .....

- glasstec.03.10.01.01.06 Brackets and fittings
- .....
- glasstec.03.10.02.04.04 Other functional fittings and brackets
- .....
- glasstec.03.13.01.01 Glass tables and furniture
- .....
- glasstec.03.13.01.02 Glass display cases and shelves
- .....
- glasstec.03.13.01.03 Parting walls in glass
- .....
- glasstec.03.13.02 Panelling
- .....
- glasstec.03.13.04 Shower cabinets
- .....
- glasstec.03.13.07 Mirrors
- .....
- glasstec.04.09 Brackets for glass applications
- .....
- glasstec.21.02 Special offers for glass trade / crafts
- .....
- glasstec.21.03 Special offers for architects

## CONTEX GmbH, HM-Verschleißtechnik

Address	Krefelder Str. 676 41066 Mönchengladbach Germany
Phone	+49 2161 92790-0
Fax	+49 2161 92790-98
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E-Mail	vertrieb@contex-gmbh.de
Stand	Hall 15, B14 (Page 648)

### Product Overview

CONTEX GmbH, HM-Verschleißtechnik

glasstec.01.03.04	Mixing technology
glasstec.02.11.02	Replacement and spare parts

### Product Details

CONTEX GmbH, HM-Verschleißtechnik

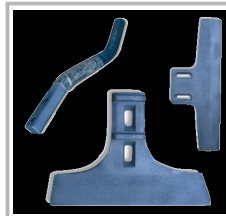
glasstec.02.11.02	Replacement and spare parts
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#### Spare parts and individual plant design for the mineral proc

##### 1. Tungsten Carbide tipped mixing tools

-mixing shovels, whirbler tools, wall- and bottom scrapers for all kinds of mixers  
2. Mixing tools from chilled cast iron and mixing arms

-mixing arms for all kinds of mixing plants



## Cooltemper Ltd.

Address	Ravenscliffe Mills, Ravenscliffe Road, LS28 5RZ Leeds United Kingdom
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Fax	+44 1274 615540
Internet address	
E-Mail	
Stand	Hall 12, A75 (Page 636)

### Product Overview

Cooltemper Ltd.

glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.09.01.02	Furnaces for chemical pre-tempering of glass
glasstec.01.09.06	Fusing Kiln
glasstec.02.09.04	Autoclaves
glasstec.02.09.02.03	Laminated glass technology with adhesives, casting resin and laminate
glasstec.01.09.05	Pre-heating furnaces
glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.02.03.08.04	Other printing technology

**Product Details**

Cooltemper Ltd.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

**Convection Furnace**

This total convection furnace is highly efficient on all types of glass. Its balanced airflow circulation system ensures a uniformed pattern of heat across the glass, giving fast production cycles and excellent visual and performance characteristics.



**CR Laurence of Europe Limited**



Address	Charles Babbage Avenue, Kingsway OL16 4NW Rochdale, Lancashire United Kingdom
Phone	+44 1706 863600
Fax	+44 1706 869860
Internet address	www.crlaurence.co.uk
E-Mail	chris_pepper@crlaurence.co.uk
Stand	Hall 10, A50 (Page 628)

**Product Overview**

CR Laurence of Europe Limited

glasstec.02.06.09	Mirror coating products
glasstec.02.10.01	Washing machines and equipment
glasstec.02.11.01	Tools
glasstec.02.11.04	Sealants
glasstec.02.11.07	Vacuum pumps
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
glasstec.03.07.01.01	Balcony glazing
glasstec.03.07.01.02	Spandrel panels (general)
glasstec.03.07.02.02	Structural-sealant-glazing facades
glasstec.03.09	Extrusions
glasstec.03.10.01.01.01	Specialist construction (shower partition walls)
glasstec.03.10.01.01.02	Glass door systems
glasstec.03.10.01.01.03	Ballustrades
glasstec.03.10.01.01.06	Brackets and fittings
glasstec.03.10.01.01.07	Machinery/tools
glasstec.03.10.01.04.01	Sealants and adhesives



glasstec.03.10.01.04.02	Stone-chip repair
.....	
glasstec.03.10.01.05	Brackets, fittings and accessories
.....	
glasstec.03.10.01.06	Construction elements
.....	
glasstec.03.10.01.07	Sealants, adhesives and insulation materials.
.....	
glasstec.03.10.03.01.02	Grinding and polishing materials
.....	
glasstec.03.10.03.01.06	Coating of sand-blasted glass
.....	
glasstec.03.10.03.02.02	Bonding technology
.....	
glasstec.03.11.01	Security furniture and fittings
.....	
glasstec.03.11.02	Security locks
.....	
glasstec.03.11.03	Panic fitting and locks
.....	
glasstec.04.01.04	Turning aids and lifting tools for glass makers
.....	
glasstec.04.02	Cutting, grinding and drilling tools
.....	
glasstec.04.03	Handling tools, hand-guided
.....	
glasstec.04.05	Protection devices
.....	
glasstec.04.06	Working clothing
.....	
glasstec.04.09	Brackets for glass applications
.....	
glasstec.04.10	Adhesive technology
.....	
glasstec.05.01.01.01	Measurement and control of glass position detection
.....	

glasstec.05.01.01.03	Measurement and control of radiation in the melt
.....	
glasstec.05.01.03	Measuring devices to be used on site
.....	
glasstec.05.01.04	Detectors for laminated glass

**Product Details**

CR Laurence of Europe Limited

glasstec.02.06.09 Mirror coating products

**CRL Combination 5-in-1 Fold-Up Screwdriver Set**

This CRL Combination 5-in-1 Fold-Up Screwdriver Set has five screwdriver blades in one complete unit which folds like a pocketknife. All blades are made from high quality, hardened and tempered steel. Each blade can be used straight out or at right angles for extra leverage. Handle length is 3-5/8 inch (92 millimeters). Bits: 1/8, 3/16 and 1/4 inch (3.2, 4.7 and 6.4 millimeter) flat blade; #2 Phillips; hole punch awl.

glasstec.02.10.01 Washing machines and equipment

**CRL/Somaca's Horizontal Glass Washers**

CRL/Somaca's Horizontal Glass Washers have the latest design features. Our six brush glass washing machine's processing speed has been increased up to 35 feet per minute. We can fabricate machines to process at any speed you need. The horizontal glass washers have a tilt-top design. The top will tilt from either end and can be supplied with an optional hydraulic lifting device. In fact, the top can be lifted straight off with an overhead crane. Access to the inside of the machine is important to perform maintenance on spray nozzles, or replace brushes.

glasstec.02.11.01 Tools

**CRL Combination 5-in-1 Fold-Up Screwdriver Set**

This CRL Combination 5-in-1 Fold-Up Screwdriver Set has five screwdriver blades in one complete unit which folds like a pocketknife. All blades are made from high quality, hardened and tempered steel. Each blade can be used straight out or at right angles for extra leverage. Handle length is 3-5/8 inch (92 millimeters). Bits: 1/8, 3/16 and 1/4 inch (3.2, 4.7 and 6.4 millimeter) flat blade; #2 Phillips; hole punch awl.

glasstec.02.11.04 Sealants

### CRL 33S Silicone Sealant

Our most popular sealant! CRL 33S Silicone is a high quality sealant that delivers the performance you demand at a competitive price. It is a one component, room temperature curing, acetic cure, 100% silicone elastomer that does not require the addition of activators, stabilizers, or catalysts to achieve optimum performance.

## CSG AUPOS IT-Solution GmbH ERP/PPS Branchensoftware



Address	48161 Münster Germany
Phone	+49 2533 93500-0
Fax	+49 2533 93500-99
Internet address	www.aupos.de
E-Mail	info@aupos.de
Stand	Hall 14, C12 (Page 644)

### Product Overview

CSG AUPOS IT-Solution GmbH ERP/PPS...

glasstec.01.10.01	Optimization of glass cutting and glass production yield
glasstec.02.13.02	Software
glasstec.05.02.01	MRP machine and transport adjustment
glasstec.05.02.02	CNC control for handling machines

glasstec.05.03.01	MRP/CAD/CIM systems
glasstec.05.03.03	Optimization systems for cutting and yield
glasstec.05.03.04	Process control systems
glasstec.05.03.05	Other control systems
glasstec.06	Contracting, consulting, engineering, services

### Product Details

CSG AUPOS IT-Solution GmbH ERP/PPS...

glasstec.02.13.02 Software

### AUPOS GLAS



AUPOS GLAS - ERP/PPS software for the glass branch

- Insulating glass units
- Toughened and laminated glass
- Processors
- Wholesalers and retailers

AUPOS GLAS is built up in modules, so that only the selected modules need to be bought:

- Sales
- Production planning
- Graphical monitoring of production control

- Cutting optimization
- Machine control and drivers
- Production
- Shop floor data capture
- CAD for processors
- CAD for shaping and Georgians
- Rack management
- Dispatch and route planning
- CAD for all glass doors
- Purchase
- Material management
- DMS Document management and archieving
- Human Resources module

### Cugher Glass S.r.l.

Address	Via Fano,1 20161 Milano Italy
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Fax	+39 02 6620-2917
Internet address	www.cugherglass.com
E-Mail	info@cugherglass.com
Stand	Hall 12, E32 (Page 636)

#### Product Overview

Cugher Glass S.r.l.

glasstec.01.13.01	Feeding and stacking systems
glasstec.01.13.02	Transport and handling systems
glasstec.02.06.02	Enamel glass machines, screen printers, thermal pressure equipment
glasstec.02.06.05	Dryers and decorating technology

#### Product Details

Cugher Glass S.r.l.

glasstec.02.06.02	Enamel glass machines, screen printers, thermal pressure equipment
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#### Flat glass

Automatic and semi-automatic silk screen printing machines for flat glass printing

glasstec.02.06.05

Dryers and decorating technology

#### Heat treatments

Ovens for glass drying and metal toughening with IR, UV, Gas and hot air technologies

#### Heat treatments

Ovens for glass drying and metal toughening with IR, UV, Gas and hot air technologies

### DekorGlass Dekoratif Cam San. Tic. Ltd. Sti.



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E-Mail	dekorglass@dekorglass.com
Stand	Hall 10, F36 (Page 628)

#### Product Overview

DekorGlass Dekoratif Cam San. Tic. Ltd. Sti.

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

#### Product Details

DekorGlass Dekoratif Cam San. Tic. Ltd. Sti.

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

#### Dekorglass in various colours and sizes

Experienced designers are at service to create exclusive designs, upon request.

Dekorglass is pure and aesthetic with the original colors of float glass: clear, bronz, gray, blue and green.

Dekorglass is compatible, indeed gives excellent results with all the mechanical and heat processes commonly used in the glass processing industry; grinding, beveling, drilling, silk screening, silvering, laminating, double glazing, bending, tempering.

It is an ideal glass for interior decoration and furnitures, with uniform and refined finish and improved resistance to staining, and easier to keep clean.

Dekorglass quality is referenced and preferred by selected clients and end users, worldwide.

Dekorglass standart plate size is: 2250 x 1605 mm and being exported in seaworthy wooden crates: 3 MM: 60 SHEETS/CASE 4 MM 45 SHEETS/CASE 5 MM 35 SHEETS/CASE 6 MM 30 SHEETS/CASE 8 MM 22 SHEETS/CASE 10 MM 18 SHEETS/CASE

### DENVER S.A.



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Stand	Hall 16, F20 (Page 652)

**Company News**

DENVER S.A.

**06/09/2010 DENVER PRESENCE AT GLASSTEC 2010**

2010 is confirming the growing trend of 2009 for DENVER. Let us show you which news will be presented during the next Glasstec fair due in Düsseldorf from 28/09/2010 to 01/10/2010.



New sales organization: two different Business Units, one for Glass and the other for Stone market, will be created in the DENVER sales department. Alessandro de Angelis, a very experienced and skilled manager coming from leading companies will be the brand new Denver's sales manager for the Glass Division. His focus will be widening top clients' references and improving Denver's market positioning.

Software improving: software is a key element in DENVER's success that's why the San Marino based Company keeps investing on it. The latest software release features program macros for fast edging of chipped sheets specifically aimed at reducing scrapping of faulty workpieces, real time updating for CAM parameters according to variations of CAD drawing dimensions, WINDOORS software specifically designed for doors processing, new icons and short-cut keys to display and control drawing and production parameters in real time.

Aggregates no more needed: Operating heads on 5 axis digital CNC machines are equipped with a very innovative technology named X DRIVE that delivers top quality and high production levels, dramatically reducing maintenance costs (rotating joints are no more used ensuring a perfect electrospindle insulation from water) as well as and grooving and blade cutting without the use of expensive and inaccurate aggregates.

JUMBO versions: 3 new sizes now available for DIGIT alongside standard version (max working area 4100x2350mm). The working areas are 3400x6000mm, 4200x4600mm and 4500x2350mm also "pendulum" working system available: it's the very DENVER's entry into the world of large glass industry's suppliers.

DENVER's stand will showcase PRIMA – a 3 axis CNC machine with a highly competitive price/performance ratio yet providing state of the art quality and technology – and DIGIT the 5 axis top CNC machine, thanks to its successful mix of compact dimension and high performances it became the winning outsider in Glass machines' market. A very innovative product protected by 8 international patents set to draw new industry standards for technology, comfort and productivity.

The DENVER's glass range is now composed by:

PRIMA: a 3 interpolated and digital axis working machine for maximum 3100x1425mm

glass' sheets. The machine has a very convenient price/performance rate. Features include: 12.5 Hp (9,2 Kw) electrospindle motor power, hi-precision axis' movement with a patented pre-loaded rack and pinion guideways system, a powerful and user-friendly operator interface and teleservice. This product is also available in a smaller version named JOB with 1400x800mm working size.

Quota Glass: is the very first machine launched by DENVER in glass machines market which received a solid appreciation by the clients. Today a number of brand new features upgrade the already excellent characteristics of this product such as program macros for fast edging of chipped sheets specifically aimed at reducing scrapping of faulty workpieces, remote control panel, new design for pedal control of work pieces holding system. Quota Glass is now available in two different sizes for 3100x1625mm and for 4100x2350mm working areas.

Digit: in 2009 it has been THE innovation in the 5 axis CNC Centers. The DIGIT is equipped with a very innovative technology named X DRIVE that delivers top quality and high production levels, dramatically reducing maintenance costs (rotating joints are no more used ensuring a perfect electrospindle insulation from water as well as and grooving and blade cutting without the use of expensive and inaccurate aggregates). Digit is now available in four different sizes with a working area of 4100x2350mm, 3400x6000mm, 4200x4600mm and 4500x2350, allowing also "pendulum" working system.

**Product Overview**

DENVER S.A.

glasstec.02.03.01.01	Grinding techniques for straight edges	.....
glasstec.02.03.01.02	Grinding techniques for patterned glass	.....
glasstec.02.03.01.03	Grinding techniques for formed glass	.....
glasstec.03.10.01.01.07	Machinery/tools	.....
glasstec.03.10.03.01.01	Grinding technology	.....

## Deutsche Hutchinson GmbH



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Fax	+49 6173 935450
Internet address	www.ljfm.de
E-Mail	holger.klein@ljfm.de
Stand	Hall 17, A43 (Page 656)

### Product Overview

Deutsche Hutchinson GmbH

glasstec.02.11.04 Sealants

### Product Details

Deutsche Hutchinson GmbH

glasstec.02.11.04 Sealants

### Aerospace - Industrie : Dichtmassen, Kleber & Beschichtungsm



Das Departement Dichtmassen, Kleber und Beschichtungsmassen ist spezialisiert auf Beratung, Formulierung, Fertigung und Vertrieb von High-Tech-Klebern und -Dichtmassen für Industriezweige mit höchsten Anforderungen, u. a. Luftfahrt, Automobilbau und Isolierverglasung. Entscheidendes Merkmal dieser Produkte ist, dass sie während der gesamten Lebensdauer der Systeme, in die sie integriert sind, gleich leistungsfähig bleiben.

Das Departement verfügt über 50 Jahre Erfahrung in seinem Bereich: Montage von Zellen und Integraltanks im Flugzeugbau, Verkleben von feststehenden Scheiben und von Karosserien im Automobilbau, Zusammenbau von Isolierglas.

### STÄRKEN:

Mit 50-jähriger Erfahrung besitzt das Departement eine starke Marktstellung in seinen Geschäftsfeldern:

- Weltweit führend bei Dichtmassen für Isolierverglasungen.
- Europaweit führend bei Dichtmassen für die Luftfahrt.
- Mit High-Tech-Dichtmassen und -Klebern präsent in den Märkten für Automobil-Erstausrüstung, -Zulieferindustrie und -Reparatur

## DGT-Anlagen und Systeme GmbH, KB Gastechnik



Address	Mühlweg 1 82054 Sauerlach Germany
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Stand	Hall 17, C42 (Page 656)

**Product Overview**

DGT-Anlagen und Systeme GmbH, KB Gastechnik

glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.08.05	Gas filling machines and gas devices
glasstec.02.09.02.03	Laminated glass technology with adhesives, casting resin and laminate
glasstec.05.01.02.02	Measurement, control and inspection of gas compounds
glasstec.05.01.02.03	Measurement, control and inspection of gas-filling levels

**Product Details**

DGT-Anlagen und Systeme GmbH, KB Gastechnik

glasstec.02.08.05	Gas filling machines and gas devices
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**World Leaders in Gas Filling Technology**

Worldwide Service, Convincing Solutions and Reliable Consultancy



DGT - Anlagen und Systeme GmbH offer the most comprehensive range of sensor-controlled gas fillers worldwide, customized for all different manufacturing techniques to reliably produce and gas fill sealed I.G. units. To support and advise customers all over the world DGT can rely on the unique expertise of their technicians and engineers, who originated, developed and optimized gas filling technology since the late seventies.

Therefore, based on high-quality equipment and experienced technicians, DGT-Anlagen und Systeme GmbH, Poing/Ebersberg/D and Sauerlach/D, is established as world leader for all kinds of reliable gas filling equipments.

DGT - Anlagen und Systeme GmbH at glasstec 2010 Düsseldorf, present gas fillers and gas analyzers to interested I.G. manufacturers.

**Diamant-Gesellschaft Tesch GmbH**

Address	Carl-Goerdeler-Str. 14 71636 Ludwigsburg Germany
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Fax	+49 7141 403217
Internet address	www.diamanttesch.de
E-Mail	info@diamanttesch.de
Stand	Hall 15, F04 (Page 648)

**Product Overview**

Diamant-Gesellschaft Tesch GmbH

glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.03.01.03	Grinding techniques for formed glass
glasstec.02.03.02.01	Decorative grinding technology for hollow glass
glasstec.03.10.03.01.01	Grinding technology
glasstec.04.02	Cutting, grinding and drilling tools

**Product Details**

Diamant-Gesellschaft Tesch GmbH

glasstec.02.02

Drilling technology

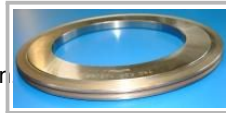
**Bohrer und Fräser nach ISO-Standard**

glasstec.02.03.01.01

Grinding techniques for straight edges

**Glas-Kantenschleifen**

Die Kantenbearbeitung von Flachglas erfolgt fast ausnahmslos mit metallgebundenen Diamantschleifscheiben

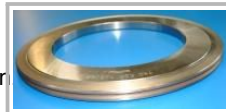


Die Art der Bearbeitung lässt sich in vier Bereiche gliedern: C (Rundprofil)- und U-Kante bei z.B. Autoglas, Möbelglas, Geräteglas, Kante mit Saum bei z.B. Bauglas, Isolierglas, Sicherheitsglas, Facettenschliff bei z.B. Spiegel und Modellkanten bei z.B. Tischplatten. Die Bearbeitung erfolgt dabei mit: doppelseitigen Kantenbearbeitungsmaschinen (Glas wird gleichzeitig an zwei parallelen Seiten geschliffen) bei C- und U-Kante, einseitigen Kantenschleifautomaten bei Kanten mit Saum, Facettenautomaten (Vorschliff mit metallgebundenen, Feinschliff mit kunstharzgebundenen Diamantscheiben) und

Modellkantenautomaten (Werkstück ruht auf einem Tisch und mit profilierten Umfangs-Diamantschleifscheiben wird die Kontur abgefahren)

**Glas-Kantenschleifen**

Die Kantenbearbeitung von Flachglas erfolgt fast ausnahmslos mit metallgebundenen Diamantschleifscheiben



Die Art der Bearbeitung lässt sich in vier Bereiche gliedern: C (Rundprofil)- und U-Kante bei z.B. Autoglas, Möbelglas, Geräteglas, Kante mit Saum bei z.B. Bauglas, Isolierglas, Sicherheitsglas, Facettenschliff bei z.B. Spiegel und Modellkanten bei z.B. Tischplatten. Die Bearbeitung erfolgt dabei mit: doppelseitigen Kantenbearbeitungsmaschinen (Glas wird gleichzeitig an zwei parallelen Seiten geschliffen) bei C- und U-Kante, einseitigen Kantenschleifautomaten bei Kanten mit Saum, Facettenautomaten (Vorschliff mit metallgebundenen, Feinschliff mit kunstharzgebundenen Diamantscheiben) und

Modellkantenautomaten (Werkstück ruht auf einem Tisch und mit profilierten Umfangs-Diamantschleifscheiben wird die Kontur abgefahren)

glasstec.02.03.01.02

Grinding techniques for patterned glass

**Diamant- und CBN-Schleifscheiben**

Unsere Diamant- und CBN-Schleifscheiben können nach den Empfehlungen der FEPA-Norm (Europäischer Verband der Schleifmittelhersteller) oder als maschinengebundene bzw. anwendungsbezogene Sonderschleifscheiben bestellt werden.

Typische Schleifanwendungen für unsere Schleifscheiben sind:

- Werkzeugschleifen auf CNC-Werkzeugschleifmaschinen
- Außenrund-, Flach-, und Centerless-Schleifen
- Innenrund- und Koordinatenschleifen
- Universal-Werkzeugschleifen
- Wendeplattenschleifen
- Produktionsschleifen
- Räumnadelnschleifen
- Trennschleifen
- Wälzfräuserschleifen

glasstec.02.03.01.03

Grinding techniques for formed glass

**Typische Schleifanwendungen für unsere Schleifscheiben**

- Werkzeugschleifen auf CNC-Werkzeugschleifmaschinen
- Außenrund-, Flach-, und Centerless-Schleifen
- Innenrund- und Koordinatenschleifen
- Universal-Werkzeugschleifen
- Wendeplattenschleifen
- Produktionsschleifen
- Räumnadelnschleifen
- Trennschleifen
- Wälzfräuserschleifen

glasstec.02.03.02.01

Decorative grinding technology for hollow glass

**Typische Schleifanwendungen für unsere Schleifscheiben**

- Werkzeugschleifen auf CNC-Werkzeugschleifmaschinen
- Außenrund-, Flach-, und Centerless-Schleifen



- Innenrund- und Koordinatenschleifen
- Universal-Werkzeugschleifen
- Wendeplattenschleifen
- Produktionsschleifen
- Räumnadelschleifen
- Trennschleifen
- Wälzfräuserschleifen

### Dias Turnov, s.r.o.



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Stand	Hall 12, D42 (Page 636)

### Product Overview

Dias Turnov, s.r.o.

glasstec.02.01.02	Glass saws
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.02.01	Decorative grinding technology for hollow glass
glasstec.02.03.02.02	Surface grinding for moulded glass

glasstec.04.02 Cutting, grinding and drilling tools

### Product Details

Dias Turnov, s.r.o.

glasstec.02.03.01.01 Grinding techniques for straight edges

#### Dias 17

SMALL MACHINE FOR SURFACE GRINDING AND POLISHING The machine type HL.2 is a small machine for hand flattening and polishing of glass, ceramics, minerals and hard brittle materials. The machine works with the diamond flat wheel different diameter 300 mm or 400 mm (one for roughing and the other one for finishing or polishing). The revolutions 600 - 750 - 900 RPM of the machine are very simple to change to either position by a pulley. The machine is designed in basic execution without any table, according to the customer wish it is possible to deliver a cooling equipment including a tank, working table or other adaptations.\* reasonable price



glasstec.02.03.02.02 Surface grinding for moulded glass

#### Dias 16

MACHINE FOR SURFACE GRINDING AND POLISHING

The machine for surface grinding and polishing HL.1PLR is designed for the manual grinding of glass, ceramics, minerals and very hard and fragile materials. The machine can be fitted with diamond wheel different diameter 300 mm or 400 mm (with special requirement 500 mm) and the revolutions are changed smoothly by a speed control from 500 to 1800 rpm. The diamond wheels should be with various grit, or, if need be, with polishing polyurethane wheels. The machine can be used only for those purposes for which it is designated.



#### Dias 16

### MACHINE FOR SURFACE GRINDING AND POLISHING

The machine for surface grinding and polishing HL.1PLR is designed for the manual grinding of glass, ceramics, mineral and very hard and fragile materials. The machine can be fitted with diamond wheel different diameter 300 mm or 400 mm (with special requirement 500 mm) and the revolutions are changed smoothly by a speed control from 500 to 1800 rpm. The diamond wheels should be with various grit, or, if need be, with polishing polyurethane wheels. The machine can be used only for those purposes for which it is designated.



### Digregorio S.r.l.

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E-Mail	info@digregoriosrl.com
Stand	Hall 11, E13 (Page 632)

### Product Overview

Digregorio S.r.l.

glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies
glasstec.02.08.01	Complete plant for insulating glass production

### Product Details

Digregorio S.r.l.

glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies
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### Sand-blasting Machines "SANDY"

H 1400-1600-1800-2000-2600



glasstec.02.08.01	Complete plant for insulating glass production
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### STAND FOR INSULATING GLASS UNITS "ARIETE"



### STAND FOR INSULATING GLASS UNITS "TORO"





## DIP Tech

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E-Mail	sales@dip-tech.com
Stand	Hall 12, A59 (Page 636)

### Product Overview

DIP Tech

glasstec.02.03.08.02 Digital printing technology

glasstec.03.01.12 Decorative colored glass

glasstec.03.02.10 Printed glass

glasstec.03.08.02.02 Tempered glass doors (general)

glasstec.03.10.03.02.11 Printing techniques

### Product Details

DIP Tech

glasstec.02.03.08.02 Digital printing technology

#### Digital Printing on Glass

Traditionally, glass printing was performed using screen-printing. Current technology involves high-production costs, time-consuming processors and several production steps. In today's competitive glass industry, where production runs are getting shorter, it is needless to say that cutting production costs and making

procedures more efficient are vital for the glass processors to remain competitive. Glass processors therefore eagerly accept this new technology for the glass industry, and are quickly shifting from conventional to digital printing, mainly for small batches and rapidly changing products.

#### Digital printing advantages

Compared to traditional production methods, digital printing offers a variety of advantages:

##### Variable data

The ability to include serial number, date and any other information that can be changed easily between copies or job.

##### Eliminates screens costs

In digital printing there is no need for production tools, such as: photo-tools, printing screens or stencils. These costs are eliminated.

##### Eliminates screen storage

Jobs are stored on the GlassJet computer, which reduces the enormous need for storage space that was previously used for screen and film on screen-printing.

##### Digital printing improves time to market

Digital printing significantly shortens job production time, due to the elimination of the preparation time of the films and screens, as well as the elimination of the extensive set-up times of traditional production equipment. The use of digital printing solutions provides a competitive advantage over other glass processor companies.

##### Saving capital equipment & labor costs

Digital printing eliminates the need for various types of capital equipment.

Currently used equipment requires an abundance of costly labor, while for the GlassJet operation, only one operator is needed.

##### Improved yields due to better consistency

Digital printing is the shortest way from an electronic file to a finished product.

##### Multi color print

The ability to print several colors in one print, while screen-printing, requires one screen for each color.

##### Full opacity control

The option to apply several different ink thicknesses/coverages on the same job.

### DIP SPECTRUM™ INKS

DIP SPECTRUM™ INKS are State-of-Art ceramic enamel, specially formulated for the GlassJet™ digital glass printer for a variety of glass printing applications in the architectural, automotive and appliances markets. With a firing temperature as low as 590oC and excellent non-sticking performance the DIP SPECTRUM™ INKS are suitable for printing on either glass pane in the laminated glass stack (S2 and S3 printing).The DIP SPECTRUM™ INK is comprised of sub-micron glass particles and inorganic pigments formulated to ensure superior light-fastness, excellent weathering performance and highest compatibility levels with the GlassJet™ printers.DIP SPECTRUM™ INKS color range includes 9 spot colors: Black, White, Blue, Turquoise, Green, Orange, Yellow, Red-Brown and Etch imitation ink. The DIP SPECTRUM INKS are intermixable to provide wide range of RAL shades that further expand the color palette.DIP SPECTRUM™ INKS are manufactured according to the most stringent quality standards with strict process protocols and tight quality control to allow perfect printing performance using theGlassJet industrial printers.

### DR.-ING. SCHMITT GMBH

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Stand	Hall 15, A41 (Page 648)

#### Product Overview

DR.-ING. SCHMITT GMBH

glasstec.02.06.09 Mirror coating products

### Product Details

DR.-ING. SCHMITT GMBH

glasstec.02.06.09 Mirror coating products

**Miraflex products for the production of copperless mirrors**

**Miraflex products for the production of mirrors with copper**

**Miraflex products for the production of solar mirrors**



### Durst Phototechnik Digital Technology GmbH



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E-Mail	m.lackner@durst-online.at
Stand	Hall 12, A29 (Page 636)

**Product Overview**

Durst Phototechnik Digital Technology GmbH

glasstec.03.02.10	Printed glass
glasstec.02.03.08.02	Digital printing technology
glasstec.03.01.12	Decorative colored glass
glasstec.03.10.03.02.11	Printing techniques

**Product Details**

Durst Phototechnik Digital Technology GmbH

glasstec.02.03.08.02	Digital printing technology
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**Theta 76/Theta 76 HS/Theta 76 BW**

Durst Theta 76/Theta 76 HS und Theta 76 BW sind voll digitale Lab Systeme basierend auf Faseroptik LED Technologie mit kontinuierlicher Belichtung von Bildern auf RA4 Rollenmaterial und S/W Rollenmaterial (Theta 76 BW) bis max. 76,2 cm Breite.

Ausgelegt für die Verarbeitung von Bildformaten von 9 x 13 cm bis 76,2 cm x 4 m bieten Theta 76/Theta 76 HS/Theta 76 BW Labors im Bereich Portrait und Hochzeitsfotografie, Studios und Minilabs einen großen Anwendungsbereich und neue Geschäftsmöglichkeiten.

Theta 76/Theta 76 HS/Theta 76 BW belichten mit einer Auflösung von 254 PPI continuous tone (was ca. 1.200 dpi entspricht) und einer linearen Belichtungsgeschwindigkeit bis max. 72 cm bzw. 81 cm/min und verarbeitet so alle Standard-Bildformate sowie Panorama Bildformate, mit/ohne Bildausschnitt, Packages, Bildserien usw. in Farbe oder schwarz-weiß, als geschnittene Einzelbilder oder als Panels bis 4 m. Der Vorteil dabei ist, dass alle Bildformate in Farbe und Dichte übereinstimmen.

Theta 76 ist in folgenden Varianten erhältlich:

- Theta 76/Theta 76 HS/Theta 76 BW - die kostengünstigen Versionen, ausgestattet mit einem high speed LED Belichter mit Tageslicht Papierkassette, einem angeschlossenen RA4 oder S/W Papierprozessor und einer Front-end Workstation.
- Theta 76 CS/Theta 76 HS CS - die komplette Version, d. h. zusätzlich ausgestattet mit einem angeschlossenen „Y-Cutter“ für Bildformate bis 30 cm Breite und „Sorter“ für Bildformate bis 30 x 45 cm.

- Theta 76 C-50/Theta 76 HS C-50, diese Version ist ausgestattet mit einem angeschlossenen „Y-Cutter“ für Bildformate bis 50 cm Breite.

Im Laboralltag bedeutet dies:

- Minilab-ähnliche Bedienung bis zum fertig geschnittenen und sortierten Auftrag kürzere Durchlaufzeiten bei Mischformat-Aufträgen
- Hohe Flexibilität im Bildformat ermöglicht Poster Prints und Panoramabilder bis 4 m.
- Doppelseitige Bilder für Hochzeitsalben in beliebiger Bildlänge sind ohne aufwendiges Kleben möglich und erfüllen kostengünstig und qualitativ besser die Wünsche Ihrer Kunden.

Dabei erreicht Theta 76/Theta 76 HS eine Produktionskapazität von ca. 200/300 geschnittenen Bildern pro Stunde im Format 20 x 25 cm, oder alternativ, 370 bzw. 550 Bilder pro Stunde im Format 20 x 25 cm bei maximaler Belichtungsgeschwindigkeit auf Panels der größten Rollenbreite, was einer Kapazität von über 18 m<sup>2</sup>/Stunde bei Theta 76 und 27 m<sup>2</sup>/Stunde bei Theta 76 HS entspricht. Theta 76 BW erreicht eine Produktionskapazität von ca. 100 geschnittenen Bildern pro Stunde im Format 20 x 25 cm, oder alternativ, ca. 185 Bilder pro Stunde im Format 20 x 25 cm bei maximaler Belichtungsgeschwindigkeit auf Panels der größten Rollenbreite, was einer Kapazität von über 12 m<sup>2</sup>/Stunde entspricht.

**Eastech Digital Technology Co., LTD**

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Phone	+886 3 3196568
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E-Mail	robert.pan@msa.hinet.net
Stand	Hall 11, F48 (Page 632)

**Company News**

Eastech Digital Technology Co., LDT

**07/27/2010 THE FIRST ONE, THE BEST ONE AND THE ONLY ONE**

Digital printers using ceramic and magic ink for the glass industry

Our digital printers can print on any type of substrate including glass, concrete, tile and carpet. Using the latest technology in ink, we do not require any pre-coating or curing after printing and you can print directly on the glass surface. It is possible to use all types of lamination after the printing process using PVB, EVA or any liquid resins with no adhesion problems. It is even possible to print directly on the PVB, EVA or PVC when required. Print resolution as high as 2880 x 2880 DPI is possible. The printer is very user friendly and the color possibilities are limitless. The Eastech digital printer is the only printer available on the market that uses both ceramic and magic ink making it the most versatile printer for all you glass applications.



**Product Overview**

Eastech Digital Technology Co., LDT

glasstec.02.03.08.02 Digital printing technology

**ECI European Chemical Ltd.**

Address	Killycard, Castleblayney Co. Monaghan Ireland
Phone	+353 4297 51520
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E-Mail	emcepren@mc-bauchemie.de
Stand	Hall 17, C54 (Page 656)

**Product Overview**

ECI European Chemical Ltd.

glasstec.02.08.06 Sealing techniques

glasstec.02.11.04 Sealants

**Product Details**

ECI European Chemical Ltd.

glasstec.02.11.04 Sealants

**Emcepren 400**

Polysulphide Insulated Glass Sealant

EMCEPREN 400 is a solvent free two-component polysulphide sealant for edge sealing of all types of insulated glass units. EMCEPREN 400 gives primerless adhesion to glass and spacer bars.



The rheological properties of EMCEPREN 400 ensures troublefree application with both, automatic and manual application systems.

**Emcepren 400**

Polysulphide Insulated Glass Sealant

EMCEPREN 400 is a solvent free two-component polysulphide sealant for edge sealing of all types of insulated glass units. EMCEPREN 400 gives primerless adhesion to glass and spacer bars.



The rheological properties of EMCEPREN 400 ensures troublefree application with both, automatic and manual application systems.

**Emcepren 500**

Silicone (One Component)

EMCEPREN 500 is a room temperature oxime curing low modulus silicone rubber with outstanding adhesive strength designed as an edge sealant for all types of insulated glass units.

**Emcepren 500**

Silicone (One Component)

EMCEPREN 500 is a room temperature oxime curing low modulus silicone rubber

ber with outstanding adhesive strength designed as an edge sealant for all types of insulated glass units.

#### Emcepren 505 - Window & Glass Silicone

One component silicone based sealing compound

- Solvent Free - One component sealing compound on a silicone rubber base  
- High resistance to UV rays - Resistance to ozone, pelting rain, salt water, industrial flue gases, mineral oils - Resistant to sudden changes in temperature - Soft elastic with acid interlacing - Adheres to most substrates without primer

Areas of Application: - Sealing of windows and other glazing requirements - Sealing of ceramic surfaces

#### Emcepren 505 - Window & Glass Silicone

One component silicone based sealing compound

- Solvent Free - One component sealing compound on a silicone rubber base  
- High resistance to UV rays - Resistance to ozone, pelting rain, salt water, industrial flue gases, mineral oils - Resistant to sudden changes in temperature - Soft elastic with acid interlacing - Adheres to most substrates without primer

Areas of Application: - Sealing of windows and other glazing requirements - Sealing of ceramic surfaces

#### Emcepren 800

Hotmelt Insulated Glass Sealant

EMCEPREN 800 is a butyl based, high strength hot melt sealant designed specifically for the production of sealed insulated glass units.

EMCEPREN 800 has exceptional performance under environmental exposure to ultraviolet light, temperature extremes and moisture. It is formulated to meet the specification of ASTM E773/E774.

EMCEPREN 800 is formulated to provide a primary moisture barrier for insulated glass units. It is designed for use with hand extrusion equipment.

#### Emcepren 800

Hotmelt Insulated Glass Sealant

EMCEPREN 800 is a butyl based, high strength hot melt sealant designed specifically for the production of sealed insulated glass units.

EMCEPREN 800 has exceptional performance under environmental exposure to ultraviolet light, temperature extremes and moisture. It is formulated to meet the specification of ASTM E773/E774.

EMCEPREN 800 is formulated to provide a primary moisture barrier for insulated glass units. It is designed for use with hand extrusion equipment.

### eco international GmbH & Co KG

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Stand	Hall 17, C03 (Page 656)

#### Product Overview

eco international GmbH & Co KG

glasstec.02.11.04 Sealants

#### Product Details

eco international GmbH & Co KG

glasstec.02.11.04 Sealants

#### Der Primärdichtstoff: Butyl (Polyisobuthylen)

Ohne wirkliche Alternative derzeit. Charakterisiert durch sehr niedrige Wasserdampf- und Gasdiffusion.

#### Einkomponentiger hot-melt

Dichtstoff zur Isolierglas Hot-melt -Typ

#### Hotmelt

Ein typischer thermoplastischer Dichtstoff der bei hohen Temperaturen appliziert wird. Typischerweise für die „schnelle Scheibe“ verwendet. Sehr niedrige Wasserdampfdiffusion, wenig Widerstand gegen mechanische oder thermische Einflüsse.

### Polysulfid

Ein hochpreisiger Dichtstoff mit einer geringen Gasdiffusionsrate und einer durchschnittlichen Wasserdampfdiffusion. Sehr anwenderfreundlich mit hohen Mischtoleranzen und unabhängig von Luftfechtigkeiten in der Umgebung.

### Polyurethan (eco pur).

Ein verhältnismäßig günstiger Dichtstoff der sich durch niedrigste Wasserdampfdiffusion und eine durchschnittliche Gasdiffusion auszeichnet. Es bedarf einer hochqualitativen Versiegelungsanlage und einer kontinuierlichen Überwachung der Verarbeitungs- und Mischeigenschaften.

## ECOTECNE Srl

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E-Mail	info@ecotecne.it
Stand	Hall 14, D41 (Page 644)

### Product Overview

ECOTECNE Srl

glasstec.02.10.02 Brushing, high-pressure and ultrasonic systems

### Product Details

ECOTECNE Srl

glasstec.02.10.02 Brushing, high-pressure and ultrasonic systems

### High power generator

High power generators with modulating frequency (20 kW Max). They are also powered by the three-phase line with the load distributed equally over the three

phases, which is an ideal solution for eliminating unbalanced loads on the user's mains and for piloting an endless number of transducers.

## Edgetech Europe GmbH



Address	Erftrstr. 22-24 41460 Neuss Germany
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Stand	Hall 17, B68 (Page 656)

### Company News

Edgetech Europe GmbH

#### 07/14/2010 Edgetech Puts You in Pole Position

Edgetech Putting Customers In Pole ">

Edgetech Europe GmbH, leading manufacturer of Super Spacer® warm edge technology, announces its big plans for glasstec 2010. Adopting the theme of Formula 1 racing, visitors to the Stand B68 in HALL 17 will be able to take the Edgetech Pole every day of the show.

Johannes von Wenserski, Head of Operations and Marketing Manager for Edgetech in Europe explains: "A regular exhibitor at glasstec, we wanted to do something really special to celebrate the record breaking sales we've enjoyed over the last year. The theme of Formula 1 fits perfectly with our business – it's about being the best at what you do in terms of engineering, productivity and innovation."

"Modelled on a large sealed unit, the streamlined stand is divided into zones depending on visitor interest. We'll have the productivity pit-stop which will show



in detail our solutions for manufacturing the most thermally efficient double and triple glazed IGUs in the most cost effective way, whether using manual, semi- or fully automated solutions. To learn more about the range of spacers we have available, visitors can talk to the team and see what's on offer in our Product Pit-Stop. For those interested in the structural integrity and proven performance of our Super Spacer® and Super Spacer® TriSeal™ products, we are planning a simulated interactive hurricane test live on the stand. Marketing and business support is an area that customers tell us differentiates Edgetech from other spacer suppliers, so we'll be show casing the full range of business to business and business to consumer materials available in 11 different languages, including sample cards, a consumer DVD and tailor made brochures.

"It's always good to have something fun on an exhibition stand too, and any visitors to the show who fancy themselves as Jenson Button can show their skills in our competition. Fastest laps on our F1 simulator will be awarded a selection of prizes announced at the end of each day. So whether you're looking to find out how to improve your productivity by switching to Super Spacer®, increase the energy efficiency of your units, enjoy award winning marketing support, or simply test your driving skills, be sure to visit Edgetech where you'll be made to feel very welcome."

For more information, call +49 2131 176360 or visit [www.superspacer.com](http://www.superspacer.com)

## Product Overview

Edgetech Europe GmbH

glasstec.02.11.05 Spacers

glasstec.03.02.03 Insulating glass

glasstec.03.02.04.01 Fireproof glass

glasstec.03.02.04.03 Heat insulation glass

glasstec.03.02.09 Curved glass

glasstec.03.07.02.02 Structural-sealant-glazing facades

glasstec.03.08.01 Structural use of glass

glasstec.05.01.02.03 Measurement, control and inspection of gas-filling levels

glasstec.21.02 Special offers for glass trade / crafts

glasstec.21.03 Special offers for architects

## Product Details

Edgetech Europe GmbH

glasstec.02.11.05 Spacers

### Edgetech's Super Spacer(R)

#### Product Overview

Super Spacer(R) is the world's first no metal, pre-desiccated, structural foam spacer system. Its award winning Thermo Set Spacer (TSS) technology gives the ultimate in high performance spacer systems. Since its inception in 1989, Super Spacer(R) has become the dominant force in thermally efficient spacer systems and is widely seen as the benchmark for all other spacer systems.

The construction includes an advanced multi-layer vapour barrier, keeping moisture out and gas in. The Super Spacer(R) flexible foam matrix is exceptionally breathable, allowing the high desiccant content to work even faster to absorb moisture. It makes for the fastest low dew / frost point in the industry. Working together with a proprietary vapour barrier and a secondary sealant, moisture is kept out, Argon gas is kept in, and conductivity is virtually non-existent.

#### Product Ranges

Super Spacer(R) Standard

Super Spacer(R) Premium

Super Spacer(R) Premium Plus

Super Spacer(R) T-Spacer™

Super Spacer(R) T-Spacer™ Premium Plus

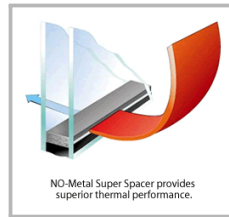
Super Spacer(R) TriSeal™ Premium Plus

Super Spacer(R) NxT

Super Spacer(R) Cushion Edge

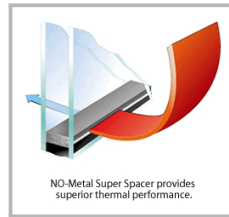
### Super Spacer® - TrueWARM® Edge Technology

Clearly, the Super Spacer product line stands alone. We call it TrueWARM because Super Spacer is the world's only 100% polymer foam, NO-Metal Warm Edge spacing system. Its arrival on the scene in 1989 revolutionized the insulating glass industry, and today, this TSS® technology is still breaking new ground in providing the warmest, longest-lasting windows anywhere in the world.



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## ELATECH S.r.l.

Address	Via Carminati, 15 24012 Brembilla / BG Italy
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Fax	+39 034 5330330
Internet address	www.elatech.com
E-Mail	info@elatech.com
Stand	Hall 15, C61 (Page 648)

### Product Overview

ELATECH S.r.l.

glasstec.01.13.02 Transport and handling systems

glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

### Product Details

ELATECH S.r.l.

glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

### ELA-flex SD™ Synchro Drive Zahnriemen

ELA-flex SD™ Zahnriemen werden aus thermoplastischem Polyurethan mit ausgezeichneter Verschleißfestigkeit und mit endlos gespulten Stahlzugträgern mit hoher Zugfestigkeit und geringer Dehnung gefertigt.

Weil es keine Verbindungs- oder Schweißstelle gibt hat der Riemen im Gegensatz zur Ausführung ELATECH® - V keine Schwachstelle. ELA- flex SD™ Zahnriemen sind daher bestens als schnell laufende Antriebsriemen und Hochleistungs- Förderriemen geeignet.

Das einzigartige von unserer Entwicklungsabteilung konzipierte Fertigungsverfahren ermöglicht die Herstellung beliebiger Riemenlängen ab 1500 mm aufwärts, Zahn um Zahn geteilt, bis maximal 22.000 mm Riemenlänge. Somit kann auf jede spezielle Anforderung eingegangen werden.

Stahl - und Sonderzugträger

Um jede technische Anforderung zu erfüllen ist es möglich ELA- flex SD™ Zahnriemen mit Sonderzugsträngen zu fertigen:

HPL Hochleistungsanwendungen

HFE Anwendungen mit hoher Biegebelastung

INOX Edelstahlzugträger für Einsatz in aggressiven Medien

ARAMID reduziertes Riemengewicht, unmagnetisch

Antistatische Riemen

Auf Wunsch können ELA- flex SD™ Zahnriemen mit antistatischen Eigenschaften gefertigt werden. Dafür wird ein spezielles antistatisches Compound oder eine elektrisch hoch leitfähige Beschichtung verwendet. Es sind Mindestfertigungsmengen zu beachten.

Produkt Zertifizierung

ELATECH® Riemen erfüllen die Richtlinie RoHS 2002/95/EC

Auf Wunsch können die Riemen gemäß Spezifikation: 94Antistatisch nach ISO 9563 (mit Spezialgewebe) bzw 94/9/CE ATEX II2G-22D geliefert werden

Dicken - und Breitentoleranzen

ELA- flex SD™ Zahnriemen werden als Standardriemen rückseitig geschliffen und werden gemäß technischer Tabelle in exakter Breite gefertigt.

Für Sonderanforderungen können bei der Herstellung engere Breiten- und Dickentoleranzen gefertigt werden. Bitte fordern Sie unsere Beratung an.

Doppelt verzahnte Zahnriemen

Auf Anfrage können ELA-flex SDTM Zahnriemen auch in Ausführung mit beidseitiger Verzahnung geliefert werden.

Es sind Mindestfertigungsmengen zu beachten.

## Elettromeccanica Bovone S.r.l.

Address	Via Molare, 23/C 15076 Ovada (AI) Italy
Phone	+39 0143 837511
Fax	+39 0143 823278
Internet address	www.bovone.com
E-Mail	elena.grillo@bovone.com
Stand	Hall 16, D42 (Page 652)

### Product Overview

Elettromeccanica Bovone S.r.l.

glasstec.02.01.01.02 Cutting technology for laminated safety glass

### Product Details

Elettromeccanica Bovone S.r.l.

glasstec.02.01.01.02 Cutting technology for laminated safety glass

### LGL - Automatic lines for the production of laminated glass



Bovone lines for the production of laminated glass (safety, antitheft and bulletproof) result from decades of experience in the field and are exported worldwide.

They meet any production need thanks to their modular structure and to the many solutions available: every line is effectively "measure-made" according to the customer's demands.

The lines are produced for 1600, 2200, 2600 and 3300 mm width, with automatic or manual configuration; in relation to space and operating needs, they can be in line or U- shaped.

## Elmag S.p.A.

Address	Viale Elvezia, 35 22040 Monza / MI Italy
Phone	+39 039 23611
Fax	+39 039 328202
Internet address	www.elmag.it
E-Mail	info@elmag.it
Stand	Hall 16, A19 (Page 652)

## Product Overview

Elmag S.p.A.

glasstec.01.03.02	Drying technology
glasstec.02.03.08.04	Other printing technology
glasstec.02.06.05	Dryers and decorating technology
glasstec.03.10.03.01.06.00	Coating of automotive glass
glasstec.03.10.03.01.06.00	Coating of flat glass
glasstec.03.10.03.01.06.00	Coating of sand-blasted glass
glasstec.03.10.03.02.12	Spray tools, equipment and spray paints

## Product Details

Elmag S.p.A.

glasstec.02.03.08.04 Other printing technology

### GRAPHICOAT

Based on 30 years experience in the construction of roller coating machines, the ELMAG and VALTORTA group has designed and produced the "GRAPHICOAT" machine, able to work out all coating problems related to paper and cardboard.



The "GRAPHICOAT" includes all recent technological solutions for easier use and to increase productivity.

Compact and solid machine, built on a strong steel frame, it is reliable at any working speed, can either coat thick cardboard of 800 g/m<sup>2</sup> or very thin paper (70-80 g/m<sup>2</sup>) thanks to a sheet detachment detection device.

The whole project is based on the simplicity of use.

The application unit is equipped with motor driven oscillating blades for rubber coated application roller (which can quickly be replaced thanks to a telescopic arms system) and doctor roller including working pressure adjustment.

The pressure between application roller and counter roller is electronically controlled with possibility of fine manual set up.

Cleaning unit of chromium-plated steel counter roller completely extractable on guides and bearings. Blades and lacquer tank can be separately removed.

Each roller is equipped with independent motor. All speeds can be adjusted in order to assure the exact control of the working parameter in any situation.

The machine is equipped with a belt conveyor with vacuum system on both infeed and outfeed.

The synchronism of the "GRAPHICOAT" speeds is electronically controlled with data set up and readings on digital display that allow easy control of all other working and diagnostic functions.

To paint thin paper the "GRAPHICOAT" can be equipped with a sheet pneumatic detachment device, where intervention and air blow are electronically controlled.

This device also includes an air filtering system and two storage tanks. The lacquer-feeding unit enables a quick replacement of the lacquer can and an easy adaptability to cans of different size. Moreover the circuit, equipped with a double diaphragm pneumatic pump and filtering system, has been designed to reduce to the minimum the lacquer quantity to start up the roller coater.

As option the machine can be equipped with a paint automatic thermostat system. All "GRAPHICOAT" machines are built according to CE standards.

In case of use of solvent lacquers the machine can be built according to EEx requirements.

The "GRAPHICOAT" is built in three work size standard dimensions: 800mm, 1100mm, 1450mm.

## Elmak Elektronik Makina San. Tic. AS

Address	Baglarbasi Mah. Atatürk Cad., Sakarya S 34844 Maltepe - Istanbul Turkey
Phone	+90 216 44239-49
Fax	+90 216 30554-50
Internet address	www.elmak.com.tr
E-Mail	he@elmak.com.tr
Stand	Hall 15, B10 (Page 648)

### Product Overview

Elmak Elektronik Makina San. Tic. AS

glasstec.02.01.01.01 Cutting technology for float glass

### Product Details

Elmak Elektronik Makina San. Tic. AS

glasstec.02.01.01.01 Cutting technology for float glass

#### CUTTING BRIDGE

The X bridges enabling glass ribbon to be divided to plates are one of the very important modules in the cold-end. Cutting quality and straightness directly affect productivity and glass plate quality.



## ENSINGER GmbH



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Phone	+49 751 354520
Fax	+49 751 3545222
Internet address	www.thermix.de
E-Mail	info@thermix.de
Stand	Hall 15, G21 (Page 648)

### Product Overview

ENSINGER GmbH

glasstec.02.11.05 Spacers

### Product Details

ENSINGER GmbH

glasstec.02.11.05 Spacers

#### Thermix® Abstandhalter

Thermix® TX.N® – das ist „warme Kante“ Mit Thermix® TX.N® Abstandhaltern erreichen Sie eine beträchtliche Energieeinsparung und eine deutliche Verbesserung des Raumklimas auf wirtschaftliche und intelligente Weise. Beste wärmetechnische Werte sind mit Thermix® TX.N® gewährleistet. Thermix® TX.N® Abstandhalter lassen sich in Isolierglasproduktionen einfach und sicher verarbeiten. In der Produktreihe Thermix® TX.N® stecken über 15 Jahre Erfahrung in der Entwicklung, Produktion und Anwendung von Abstandhaltern und über 40 Jahre Erfahrung mit Hochleistungskunststoffen.



## EnviroChemie GmbH



Address	In den Leppsteinswiesen 9 64380 Rossdorf Germany
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Fax	+49 6154 6998-11
Internet address	www.envirochemie.com
E-Mail	info@envirochemie.com
Stand	Hall 15, A25 (Page 648)

### Product Overview

EnviroChemie GmbH

glasstec.02.10.03	Waste water treatment equipment
glasstec.02.12.05	Waste water treatment
glasstec.02.12.06	Treatment of wheel and polishing wharf
glasstec.03.04.04	Other accessories and services
glasstec.06	Contracting, consulting, engineering, services
glasstec.21.03	Special offers for architects

### Product Details

EnviroChemie GmbH

glasstec.02.10.03 Waste water treatment equipment

#### Envopur® Membrananlagen

Die Anlagen der Produktreihe Envopur® decken das breite Spektrum der Membrantechnik zur Wasseraufbereitung, Kreislaufführung und Abwasserreinigung

ab. Sie sind für Industrieabwässer der meisten Branchen geeignet und haben sich seit vielen Jahren bewährt.

Oft sind effektive Lösungen nur durch verfahrenstechnische Kombinationen möglich. Wir kombinieren die optimalen Behandlungsprozesse, z. B. Envopur® mit chemisch-physikalischen Verfahren (Envochem®), biologischen Verfahren (Biomar®) oder wir kombinieren verschiedene Envopur® -Prozesse.

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glasstec.02.12.05

Waste water treatment

#### chemisch-physikalische Wasser- und Abwasseraufbereitung

Die chemisch-physikalische Wasser- und Abwasseraufbereitung gehört zu den leistungsfähigsten Basisverfahren der Wassertechnik. Mehr als 30 Jahre Erfahrung und über 1.000 gebaute Anlagen stecken in der Envochem®-Technologie von EnviroChemie. Als Hardware kommen ausgereifte, von uns entwickelte oder geprüfte Komponenten zum Einsatz. Für die Planung, Fertigung und den Betrieb der Anlagen haben wir ein nach DIN EN ISO 9001 zertifiziertes Qualitätsmanagementsystem installiert. Gefertigt wird in deutschen und Schweizer Betrieben der EnviroChemie-Gruppe oder deren Partnern.

Durch den Anschluss der Anlagen an unser Fernwartungssystem können wir die Betreuung und Optimierung der Anlagen beim Kunden vereinfachen.

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glasstec.02.12.06 Treatment of wheel and polishing wharf

#### Für die Bereiche Solar · Glas · Keramik und Optik

Typische Belastungen von Prozesswässern und Abwässern in der Solar-, Glas-, Optik- sowie Keramikbranche sind Feststoffe, Kühlschmiermittel, Öle, Säuren, Laugen und Schwermetalle. Die Reinigungsprozesse in der Produktion erfordern zunehmend Waschwässer bis zur Reinstwasserqualität. Die angewendeten Reinigungsverfahren sind so konzipiert, dass Wasserinhaltsstoffe als Wertstoffe zurückgewonnen werden.

### EnviroFALK GmbH, Prozesswasser-Technik



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Internet address	www.envirofalk.com
E-Mail	info@envirofalk.com
Stand	Hall 15, A25 (Page 648)

#### Product Overview

EnviroFALK GmbH, Prozesswasser-Technik

glasstec.02.03.07	Water treatment for grinding technology
glasstec.02.10.03	Waste water treatment equipment
glasstec.02.12.05	Waste water treatment

#### Product Details

EnviroFALK GmbH, Prozesswasser-Technik

glasstec.02.10.03 Waste water treatment equipment

#### Flachglas

Unternehmen der Glas-Industrie benötigen in Ihren Produktionsstufen erhebliche Mengen an Reinwasser zum Waschen und beim Bearbeiten von Glas. Mit unseren Reinwasserkreislauf-Anlagen garantieren wir eine gleichbleibend gute Wasserqualität beim Waschen von Glas. Die Belastung und der Grad der Verschmutzung steigt im Laufe der Fertigung kontinuierlich an. Durch kombinierte Technik wird das verschmutzte Wasser gereinigt und in den Prozess zurückgeführt. Sie gewinnen Produktionssicherheit bei gleichzeitiger Optimierung Ihrer Kosten.



Anwendungen : Kühlung, Siebdruck-Verfahren, Isolierglas-, ESG- und VSG-Herstellung, Beschichtungstechnik, Spiegelbelegung, Automobilglas-Herstellung, Solar-Fertigung.

### Erdmann Enterprises Deutschland GmbH

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E-Mail	info@erdmann-enterprises.com
Stand	Hall 15, B03 (Page 648)

**Product Overview**

Erdmann Enterprises Deutschland GmbH

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

**Product Details**

Erdmann Enterprises Deutschland GmbH

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

**VITROMOD Horizontale Vorspannanlage**

EED führt Planung, Bau und Inbetriebnahme von kompletten horizontalen Vorspannanlagen für die Herstellung von thermisch vorgespanntem, planem Einscheibensicherheitsglas (ESG: 3 - 19 mm Glasstärke) sowie teilvorgespanntem Glas (TVG: 3 - 12 mm Glasstärke) für die Verwendung

als Bau- und Möbelglas durch.

Die Vorspannanlagen zeichnen sich durch gleichbleibende Qualität des Endproduktes aus. Extrem kurze Umstellzeiten auf unterschiedliche Glasdicken, Formate und Produkte erlauben auch die wirtschaftliche Fertigung kleiner Lose.

**ESC Europa-Siebdruckmaschinen-Centrum GmbH & Co. KG**

Address	Heldmanstr. 30 32108 Bad Salzufen Germany
Phone	+49 5222 8090
Fax	+49 5222 81070
Internet address	www.esc-online.de
E-Mail	info@esc-online.de
Stand	Hall 12, A70 (Page 636)

**Product Overview**

ESC Europa-Siebdruckmaschinen-Centrum GmbH & Co....

glasstec.02.03.08.01.01 Screen printing techniques

glasstec.02.03.08.01.02 Screen washing machine

glasstec.02.03.08.01.03 Plants for screen de-laminating

glasstec.02.03.08.01.04 Other screen printing machines

glasstec.02.03.08.02 Digital printing technology

glasstec.02.03.08.03 Pad printing technology

glasstec.02.06.02 Enamel glass machines, screen printers, thermal pressure equipment

glasstec.02.06.05 Dryers and decorating technology

glasstec.02.10.01 Washing machines and equipment

glasstec.02.12.05 Waste water treatment

glasstec.03.10.03.02.09 Screenprinting, framing, painting and texturing tools

**Product Details**

ESC Europa-Siebdruckmaschinen-Centrum GmbH & Co....

glasstec.02.03.08.01.01 Screen printing techniques

**ESC - Competence all along the line**

Our all-purpose screen printing machines offer you significantly more possibilities.

The all-purpose screen printing machines from ESC enable you to achieve perfect printing results. We offer standard systems, modular systems and individual solutions, perfectly aligned to your special requirements. At ESC you can find all types of screen printing machines: manual and semi automatic machines, three-quarter and fully automatic systems and finally also complete printing lines. Whether standard design, customized to meet individual customer requirements



or newly designed machines – flexibility is our strength. We will always find the adequate solution for your every need!

#### glasstec.02.03.08.01.02 Screen washing machine

##### **ESC-PERFECTA overview**

Thorough yet gentle - ESC screen washing and reclaiming machines.

ESC-PERFECTA®-The premium series for screen printing

The innovative new product development in the area of screen washing and reclaiming machines. By our new ESC-PERFECTA®IC screen washing and reclaiming machines state-of-the-art technology is redefined. Environmentally friendly and cost effective

ESC-PERFECTA®IC premium series

The innovative new product development for efficient and automatic screen washing!

With our new ESC-PERFECTA®IC screen washing and reclaiming machines state of the art technology is redefined. These machines using the latest technology will help you to reduce the costs for solvents, chemicals and energy to the absolute minimum. The compact design also reduces the required space. Compared to conventional machines the ESC-PERFECTA® IC series additionally requires a minimum amount of maintenance.

The ESC Ltd is a company, which is TÜV certified according to § 19 IWHG ESC-PERFECTA® IC InLine continuous-flow system

Washing and reclaiming of screens to ultimate perfection - all in a length of 2500 mm! The ESC InLine system has been engineered to meet our customers' requirements

##### **ESC-PERFECTA® IC InLine continuous-flow system**

Washing and reclaiming of screens to ultimate perfection - all in a length of 2500 mm! The ESC InLine system has been engineered to meet our customers' requirements.

- innovation: module length is reduced to 500 mm
- innovation: pen stock system with only one drive, to conserve the mechanical system and to ensure a smooth and fast cleaning
- innovation: pre-selectable nozzle bar operating height via touch screen for various screen sizes, offering savings of time, chemicals and energy
- innovation: screen washing module with integrated inclined filter system
- innovation: sealing structure in the screen washing and reclaiming module made of special solvent-resistant material

#### glasstec.02.03.08.01.02 Plants for screen de-laminating

##### **ESC-PERFECTA overview**

Thorough yet gentle - ESC screen washing and reclaiming machines.

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#### glasstec.02.03.08.02 Digital printing technology

##### **Digital Print Overview**

Complement and complete - digital system solutions from the ESC

As a customer of the ESC, you will not only benefit from our years of experience in traditional screen printing and pad printing. Through our selected range of digital printing systems with the ESC, you are always on the cutting edge.

glasstec.02.03.08.03 Pad printing technology

### Standard machinery

Our versatile pad printing machines offer significantly more opportunities.

The all-purpose ESC pad printing machines ensure best possible printing results. We offer standard systems, modular systems and individual solutions, from one-color selection to the six-colored logo print, perfectly aligned to your special requirements. Our services range from manual to fully automated loading and unloading.



### euroTECH GmbH



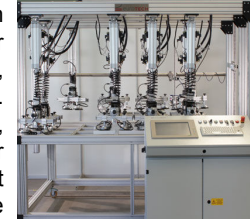
Address	Dammstr. 1 72351 Geislingen Germany
Phone	+49 7433 90468-0
Fax	+49 7433 90468-13
Internet address	www.euro-tech-vacuum.de
E-Mail	info@euro-tech-vacuum.de
Stand	Hall 15, A03 (Page 648)

### Company News

euroTECH GmbH

#### 09/16/2010 **Fast, safe, independent: euroTECH builds test control units for internal collector tests in the solar industry**

On the glasstec 2010 in Düsseldorf euroTECH Vacuum Technologies shows a patented test control unit for measuring resistance to pressure and tensile strength, of solar collectors and large-scale glass elements. With this unit and its versatile options for simulations, manufacturers can measure, test and evaluate on their own, without depending on testing institutes. The unit was designed and built by euroTECH being in close contact with leading German testing institutes. The project was promoted by the Federal Ministry for Economy and Technology according to a decision of the German Bundestag.



With this test control unit euroTECH is responding to the growing requirements of the solar industry: higher speed in research and development, improved quality assurance within the production processes and minimizing the risk of damage to collectors caused by extreme weather conditions. In particular the system generates complete quality control documentation over the manufacturing process, providing an indisputable basis for avoiding complex claims for compensation from the outset. These challenges together create a high demand for quickly available verifiable measurement and test values.

For experimental and solar technology load tests of collectors and mounting systems, the euroTECH test control unit has different movable suction units. It is possible to measure compressive and tensile forces of 300 kg or more per lifting cylinder. The heart of the test control unit is the electronic control center with an easy to operate, multifunctional display. It adjusts for the extremes of compressive and tensile forces in combination with variable measuring times – far beyond the required standards. The measuring data and performance diagrams are directly transferred to the PC via interfaces. Users get a flawless documentation for evaluating their products. Defects of material or workmanship are recognized early and can be corrected immediately.

euroTECH offers the test control unit with different additional components as a modular system. Depending on module sizes and testing requirements the control unit can be configured individually.

**Product Overview**

euroTECH GmbH

glasstec.01.13.01	Feeding and stacking systems
glasstec.01.13.02	Transport and handling systems
glasstec.01.13.08	Construction and glazing equipment
glasstec.01.13.09	Parts for conveying, transport, packing and warehouse technology
glasstec.02.11.07	Vacuum pumps

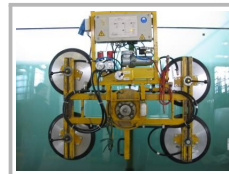
**Product Details**

euroTECH GmbH

glasstec.02.11.07 Vacuum pumps

**Vakuum-Hebegeräte mit Zwei-Kreis-System**

Umbau von Vakuum-Hebegeräten auf ein Zwei-Kreis-System gemäß DIN 13155 und Anpassung an Ihre individuellen Anforderungen



**Vakuumspeicher mit Vakuumpumpe**

für alle Anwendungsbereiche und für alle Anforderungen



**EUROWATER Wasseraufbereitung GmbH**



Address	Fischbeker Weg 42 21149 Hamburg Germany
Phone	+49 40 702062-0
Fax	+49 40 702062-20
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E-Mail	info@eurowater.de
Stand	Hall 14, C43 (Page 644)

**Product Overview**

EUROWATER Wasseraufbereitung GmbH

glasstec.02.10.03 Waste water treatment equipment

**Product Details**

EUROWATER Wasseraufbereitung GmbH

glasstec.02.10.03 Waste water treatment equipment

**Wasseraufbereitungsanlagen**

Die fortschreitende Entwicklung neuer Glastypeen und Spülprozesse stellt hohe Ansprüche an die Wasseraufbereitung. Mit Hilfe unserer Spezialanlagen optimieren wir Ihre Wasserkreisläufe angepasst an die Glaswaschmaschine, das zu verarbeitende Glas und den Glasdurchsatz. Sie erreichen eine gleichbleibend hohe Produktqualität bei gleichzeitig sinkenden Betriebskosten durch geringeren Frischwasserbedarf und einen langfristig störungsfreien Betrieb Ihrer Waschmaschine. Unsere NEUENTWICKLUNG: Kompakt-Entsalzungsanlage mit Dual-Filtersystem, platzsparend und äußerst effektiv

## EWK Umwelttechnik GmbH

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Internet address	www.ewk.de
E-Mail	umwelt@ewk.de
Stand	Hall 14, E49 (Page 644)

### Product Overview

EWK Umwelttechnik GmbH

glasstec.01.04.10	NOx control technology
glasstec.01.04.11	Filter technologies (smoke and electrostatic)
glasstec.02.12.04	Purification of exhaust gases

### Product Details

EWK Umwelttechnik GmbH

glasstec.02.12.04	Purification of exhaust gases
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#### Katalytische Anlagen KAT

Katalytische Abgas- und Abluftreinigung

EWK Umwelttechnik erstellt seit Jahrzehnten Anlagen zur Reinhaltung der Luft und zur Reinigung von Abgasströmen.

Das SCR-Verfahren (selektive katalytische Reduktion) wird erfolgreich eingesetzt zur Schadstoffreduktion von:

Prozessabluft  
 Verbrennungsgasen

Sowohl bei der Verbrennung von Biobrennstoffen als auch von fossilen Brennstoffen und Industrieabfällen (Lösemittel-, Klärschlamm-, Sprengstoff-, Müll-, Industrierückstände etc.) entstehen auch mit modernsten Feuerungen z.T. große Mengen von

Stickoxid NOx

Kohlenmonoxid CO

Kohlenwasserstoffen CmHn

Dioxinen/Furanen

Mit der SCR-Katalysatortechnik können diese Luftschadstoffe mit hohem Wirkungsgrad zu N<sub>2</sub>, CO<sub>2</sub> und H<sub>2</sub>O umgewandelt werden.

Modularer Aufbau

Das Reaktorgehäuse ist aus Edelstahl im Baukastensystem mit integrierter Isolation aufgebaut.

Dies erlaubt individuelle Bestückung je nach Schadstoffart und Schadstoffkonzentration.

individuelle Anpassung an bauliche Gegebenheiten.

kompakte und kostengünstige Bauweise.

SCR-Katalysatortechnik zeichnet sich aus durch:

geringen Wartungsaufwand

hohe Betriebssicherheit

lange Lebensdauer

einfachen Betrieb

niedrige Betriebskosten

gute Nachrüstbarkeit bei Altanlagen

Vorteile beim Einsatz der SCR-Technologie mit Harnstoff als Reaktionsmittel

Harnstoff ist ungiftig. Transport und Lagerung sind problemlos

NOx-Umsatzraten von über 98% sind möglich

keine oder vernachlässigbare Reaktionsnebenprodukte

geringer Ammoniak schlupf

## Fenetechn Inc.

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E-Mail	
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### Company News

Fenetechn Inc.

#### 08/06/2010 FeneTech - Countdown for FeneVision ERP Version 7

The countdown is running for the launch of Ohio based software specialist FeneTech's new software generation FeneVision ERP Version 7 tailored to the window, entry door, glass processing, and sunroom manufacturing industries during GlassBuild America 2010 and also to be demonstrated during Glasstec 2010 in Dusseldorf/Germany. Beyond many additional functionalities such as Business Intelligence, FeneChat, Internal messaging, and others the system offers an incredible user interface: modern graphics, dashboard and new ribbon menu technology, to name a few characteristics.



Also the newly integrated Business Intelligence is a Microsoft SSRS version of the powerful FeneVision Information Center which allows for a very smooth and comfortable integration into Microsoft Office products. Business Intelligence (BI) refers to new techniques which are used in modern computer software systems in order to retrieve and analyze both internal and external business data to support better decision-making and this way to gain a competitive advantage. Also very often BI is used as a synonym for competitive intelligence because they both support efficient decision making.

With FeneVision ERP Version 7, as being presented in Las Vegas for the first

time, also high accents are set on new crisp graphics enhancing the overall look and feel of the software. FeneTech is really proud of Version 7 as it represents a new standard in technology and modern software design.

The system is fully integrated and based on a single centralized database from Microsoft (SQL Server 2008), using a dynamic and unlimited bill of material system, allowing the user to configure any type of product, no matter the complexity, providing an open architecture with endless flexibility.

In addition to this FeneTech will display both in Las Vegas and Dusseldorf the FeneVision LineScanner, which is able to scan both monolithic glass and IG units in 400dpi resolution to detect quality defects but also measuring including all geometric data, all in one single scanning step.

Visit FeneTech for a detailed demonstration during

GlassBuild America 2010 in Las Vegas, Booth# 2055

Glasstec 2010, Dusseldorf, Germany Hall 14, Booth B41

visit our websites at:

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

[www.fenetechn-europe.com](http://www.fenetechn-europe.com)

#### 07/20/2010 FeneTech Europe to launch new European website

Luxembourg based FeneTech Europe SARL, sister company of Ohio based software specialist FeneTech Inc. just launched its multi-lingual website in Europe. Initially the informative site is available in English, French and German. Spanish and Portuguese to follow soon. Based on the great success of the modern and fully integrated FeneVision ERP software solution on the European marketplace FeneTech Europe SARL was founded early this year to cope with the growing customer base in Europe. The company is lead by Horst Mertes who serves as the CEO for FeneTech Europe SARL.

"We expect immense growth in Europe and will acquire more and more customers on this market. Also in Europe, the market has been waiting a long time for an alternative in software and with FeneVision ERP we can offer a modern, completely integrated software solution" says Horst Mertes, CEO of FeneTech Europe SARL.

From its Luxembourg based office, the company offers sales, installation, training and support with an uncompromising commitment to serve European customers.

For more information visit [www.fenetechn-europe.com](http://www.fenetechn-europe.com)

**07/28/2010 FeneTech to launch FeneVision ERP Version 7 during  
Glassbuild America 2010 and Glasstec 2010**

Ohio/USA based software specialist FeneTech Inc. and Luxembourg based FeneTech Europe SARL announce the launch of FeneVision ERP Version 7 tailored to the glass processing industry as well as for manufacturers of windows & doors during GlassBuild America 2010 and Glasstec 2010 in Dusseldorf/Germany. Version 7 was designed in accordance with the Microsoft Windows 7 operating system and expanded, amongst others, with the following additional functionalities: new production scheduling and auto-batching, Business Intelligence, enhanced capacity planning, and contractor to dealer on-line ordering tools, as part of the FeneVision Web Center.



The newly integrated Business Intelligence is a Microsoft SSRS version of the powerful FeneVision Information Center which allows for a very smooth and comfortable integration into Microsoft Office products. Business Intelligence (BI) refers to new techniques which are used in modern computer software systems in order to retrieve and analyze both internal and external business data to support better decision-making and this way to gain a competitive advantage. Also very often BI is used as a synonym for competitive intelligence because they both support efficient decision making.

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Visit FeneTech for a detailed demonstration of FeneVision ERP Version 7 during GlassBuild America 2010 in Las Vegas, Booth# 2055 and at Glasstec 2010 Dusseldorf Hall 14, Stand B41.

**Product Overview**

Fenetech Inc.

glasstec.02.13.02	Software
glasstec.05.02.02	CNC control for handling machines
glasstec.05.02.04	Controls for glass inspection machines
glasstec.05.03.01	MRP/CAD/CIM systems
glasstec.05.03.03	Optimization systems for cutting and yield
glasstec.05.03.04	Process control systems

**Product Details**

Fenetech Inc.

glasstec.02.13.02	Software
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**FeneVision ERP**

**FeneVision ERP**

FeneVision ERP is the modern and completely integrated software solution which is setting a new standard in the industry. Based on one single and centralized Microsoft SQL database it handles all aspects of a complete enterprise starting from the handling of quotations, orders, purchasing, stock control, fully integrated capacity planning features, production scheduling, batching, fully dynamic glass cutting optimization, shop floor tracking based on bar-coding as well as touch screens, delivery planning, monitoring, automatic remake concepts, invoicing, statistical reporting, internet based order entry and quoting including automatic download of orders to the production site, invoicing, and much more. Developed by our sister company FeneTech Inc., based in Aurora/Ohio (US) the system has already been well proven in the industry. FeneTech Europe SARL provides excellent support for FeneVision ERP in Europe in terms of sales, implementation and as our US sister company with an uncompromising commitment to serve all European customers.



**Fenzi S.p.A.**



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**Product Overview**

Fenzi S.p.A.

glasstec.02.06.02	Enamel glass machines, screen printers, thermal pressure equipment
glasstec.02.06.05	Dryers and decorating technology
glasstec.02.06.09	Mirror coating products
glasstec.02.08.06	Sealing techniques
glasstec.02.11.04	Sealants
glasstec.02.11.05	Spacers
glasstec.03.10.03.02.06	Glass paints

**Product Details**

Fenzi S.p.A.

glasstec.02.06.05 Dryers and decorating technology

**Molver**

MOLVER® - Molecular Sieve for insulating Glass - is a product specially formulated for application in the manufacturing of insulating glass units taking into account glaziers' specific requirements. Compared with other products, slower adsorption kinetics for water eases handling of the product during spacers filling and insulating glass units sealing.



The final effect is a very high long term stability of the system. Another advantage of this product is the more effective adsorption of water because, once adsorbed, the water remains in the inner part of the grain of MOLVER® and does not move to the surface.

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### Duralux Super

Paints based on combination of thermosetting polymers, to be used with curing ovens equipped with infrared radiation (short or medium waves). Very high anticorrosive and mechanical performances. Formulated also for being used with copper-free technology. 2Coat Systems

The new Duralux "Super" paints guarantee a 100% protection against all possible corrosive atmospheres.

Great cass test (acetic acid) resistance = zero corrosion;

Great ammonia resistance;

Unmatched salt spray resistance = 1500 hours;

Perfect humidity (humid cycles) resistance.

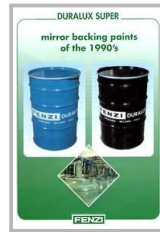
By protecting your mirrors with the new Duralux "Super" 2 coat system paints you will see no corrosion at all after the above-mentioned tests. Also the new two-coat system Duralux "Super" paints guarantee great hardness and a glossy no-scratchable finish. Both physical/mechanical and chemical features are at their best and the finished product is of outstanding quality.

#### Base Coat

Specially formulated base coat paint provides in conjunction with Super top coat an absolutely perfect humidity and corrosion resistance. Cass test and salt spray at zero corrosion. Fantastic ammonia resistance.

#### Top Coat

Specially formulated top coat paint for usage together with Super base coat. Perfect resistance to aromatic and aliphatic solvents and cutting oil, immediately after production. Very hard and semi-glossy finish.



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glasstec.02.11.04

Sealants

### Lead Profiles

Since 1986 FENZI has produced more than 25.000 tons of lead crowned profiles. With these profiles more than 25 millions stained windows and mirrors have been produced for private houses and public establishments in every part of the world. The range of products is really wide: more than 150 different profiles and the opportunity of crowning them with every non ferrous metals - alpacca, nickel, aluminum, copper, brass, bronze - natural, brilliant, or painted.



During the years many important innovations have been developed for furniture and mirror industries; Bimetal® and Superbrill® profiles have been patented. Philosophy of the company: continuous support to customers. Flexibility and speed in deliveries have contributed in making lead profiles division of FENZI SpA the most important productive unit in the world in this field of activity.

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glasstec.02.11.05

Spacers

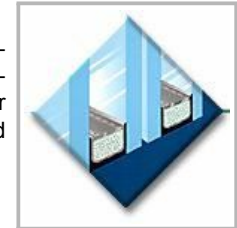
### Double Glazing Profiles

FENZI is the only group in the world offering directly everything needed by insulating glass producers. Qualified assistance and worldwide sales organisation offer to every customer a dedicated service any where and any time.



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## Ferlam Technologies

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**Product Overview**

Ferlam Technologies

glasstec.02.11.02 Replacement and spare parts

**Product Details**

Ferlam Technologies

glasstec.02.11.02 Replacement and spare parts

**Cathode Ray Tubes (C.R.T)**

conveyor belts vacuum pads

**Flat glass:**

All covers for the conveying cylinders:

stainless steel and kevlar knitted/woven/braided sleeves kevlar woven tapes  
kevlar square braids

**Hollow glass (bottle, packaging..):**

stainless steel linings for pusher- and sweep out fingers, transfer wheels, stacker bars. stainless steel non-woven felts (for tongues...) stainless steel sleeves for tongues and guiding devices



**Table ware:**

conveyor belts: (100 % aramid – composites: aramid/pbo/stainless steel...)  
tools lagging ( tongues...) vacuum pads (stainless steel, composites...)

**Technical glass**

lighting glass: conveyors, handling devices.. glass bricks: handling and conveying .. pharmaceutical glass: handling..

**Ferro Corporation, Glass Systems Division**



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E-Mail	glass.systems@eu.ferro.com
Stand	Hall 11, D69 (Page 632)

**Product Overview**

Ferro Corporation, Glass Systems Division

glasstec.01.04.13	Feeder colouring
glasstec.02.05.02	Laser-marking technology
glasstec.02.06.02	Enamel glass machines, screen printers, thermal pressure equipment
glasstec.03.01.01	Float and mirror glass
glasstec.03.02.01	Tempered glass
glasstec.03.02.02.01	Laminated safety glass
glasstec.03.02.10	Printed glass

glasstec.03.02.12	Self-cleaning glass
.....	
glasstec.03.03	Automotive glass
.....	
glasstec.03.05.07	Glass bricks
.....	
glasstec.03.07.04.01	Photovoltaic systems
.....	
glasstec.03.07.12	Worked flat glass (general)
.....	
glasstec.03.10.01.04.04	Nano coating technology
.....	
glasstec.03.10.03.01.06	Coating of flat glass

**Product Details**

Ferro Corporation, Glass Systems Division

glasstec.02.05.02 Laser-marking technology

**CerMark Laser Materials**

CerMark laser marking materials combined with the power and speed of lasers provide high contrast, permanent marks on a variety of substrates. Our products are lead and cadmium-free, water-based materials which means they are environmentally preferred and easy to clean up.

High contrast, permanent marks on:

Glass Metal Ceramics Plastic

Colorful marks can be obtained on glass surfaces using CerMark laser marking materials.

Marks have been achieved by YAG, CO2 and diode pumped lasers and can possibly be made by other forms of radiant energy.

Marks on stainless steel survived the following tests:

Abrasion (scratch resistance) Salt water spray Lubricants Blow torch

Now available in spray cans!

Marks on glass have been tested for resistance to acids, bases and scratching.

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**FHR Anlagenbau GmbH**



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E-Mail	postbox@fhr.de
Stand	Hall 12, F49 (Page 636)

## Product Overview

FHR Anlagenbau GmbH

glasstec.02.06.01	Vacuum coating equipment
glasstec.02.06.04	Metallizing machines
glasstec.02.06.08	Sputtering targets for glass coatings

## Product Details

FHR Anlagenbau GmbH

glasstec.02.06.01 Vacuum coating equipment

### Folienbeschichtungsanlage RC 200

#### Anwendungsbereich

Die Folienbeschichtungsanlage RC 200 ist eine multivalent einsetzbare Anlage zur Beschichtung von Folienbändern bis 200 mm Breite für den Einsatz in der Produktentwicklung und Produktion. Die Konzeption der Anlage als Hochvakuumbeschichtungssystem mit differentiell Pumpsystem eröffnet insbesondere Anwendungen für hochwertige Beschichtungen auf Foliensubstraten für:



- Solarzellen
- Displays
- Sensortechnik
- Wärmeschutzfolien
- Verpackungen und weiteres.

Hinsichtlich der Beschichtungstechnologien ist die Anlage technologisch vorbereitet für PVD Beschichtungen auf Basis:

- DC Sputtern
- RF Sputtern
- Reaktives MF Sputtern
- Elektronenstrahlverdampfung

- Thermische Widerstandsverdampfung
- ARC Verdampfung.

Damit bestehen vielfältige Lösungen zur Beschichtung unterschiedlichster Materialien und zur Anpassung der Schichteigenschaften an die Produkte. Die Einbeziehung von PECVD Verfahren ist gleichermaßen möglich.

#### Beschreibung der Anlage

Die Anlage besteht aus einem kompakten Hochvakuumrezipienten, welcher intern separierte Räume für das Bandlaufwerk und die technologischen Sektionen enthält, dem Vakuumsystem, welches differentiell die einzelnen Sektionen abpumpt und je nach technologischen Forderungen spezifiziert werden kann, den technologischen Baugruppen wie Sputterquellen oder Verdampfer und einer hochwertigen Anlagen- und Prozesssteuerung auf Basis SPS. Optional sind weitere Baugruppen für in-situ Messtechnik integrierbar.

Ein hochwertiges Bandlaufwerk mit rechnergesteuertem Transport- und Wickelmechanismus sowie rechnergesteuertem Bandzug ermöglicht eine optimale Anpassung an unterschiedliche Foliensubstrate und Beschichtungsprobleme bis hin zu Mehrfachbeschichtungen. Die zentrale Beschichtungstrommel ist typischerweise gekühlt. Jedoch sind prozessbedingt Lösungen mit beheizter Trommel bis 500°C verfügbar.

Das Hochvakuumssystem für jede Sektion ist standardmäßig mit Turbomolekularpumpen ausgerüstet. Je nach Gasanfall und Restgasforderungen können Kryopumpen eingesetzt oder weitere Kundenwünsche berücksichtigt werden. Die differentiell gepumpten Sektionen erlauben individuell anpassbare Arbeitsdrücke für jede einzelne Sektion.

Das Steuerungssystem auf der Basis einer SIEMENS Simatic S7 SPS entspricht allen Anforderungen als flexibles System für die Prozeßentwicklung sowie der automatischen Produktion.

### PVD-Rollcoater Roll Coater

FHR Anlagenbau GmbH covers with the program of roll or web coater of medium sized web size the area of production and advanced product development. The RC 200 is a first type meeting especially well various requirements of modern or future flexible electronics in a roll to roll process, which becomes of growing importance. The concept fits extremely well to different basic process solutions for sputtering and evaporation. The winding mechanism can handle different types of substrate materials and web thickness with a wide process window. The substrate temperature may be controlled in a wide range to achieve different film properties. FHR Anlagenbau GmbH has also know-how for advanced in-situ measurement tools and related on-line process control technology.

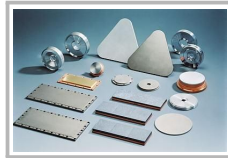


glasstec.02.06.08

Sputtering targets for glass coatings

### Materialien & Bonden

Die Firma FHR Anlagenbau GmbH ist spezialisiert auf die Produktion von Sputtertargets für alle Anwendungen der Dünnschichttechnik, d. h. sowohl für Forschung und Entwicklung als auch für Supraleitung, Mikroelektronik, LCD's, Sensoren, Glasbeschichtung usw.



Mit langjähriger Erfahrung in diesem Bereich und grundlegenden Entwicklungen von Großflächentargets für die Glasindustrie ist FHR Anlagenbau heute eine der führenden Firmen für die Produktion von gebondeten Silizium- und Titantargets, Edelmetalltargets sowie von kundenspezifischen Lösungen.

Der Service schließt auch die Herstellung und Rückgewinnung von Kühlplatten ein.

### Fickert & Winterling, Maschinenbau GmbH



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Fax	+49 9231 502-52
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Stand	Hall 13, A88 (Page 640)

### Product Overview

Fickert & Winterling, Maschinenbau GmbH

glasstec.01.05.02	Glass drawing technique
glasstec.01.05.03	Casting and rolling technology
glasstec.01.13.03	Conveying, sorting and storage facilities
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.01.02	Glass saws

**Product Details**

Fickert & Winterling, Maschinenbau GmbH

glasstec.02.01.01.03 Cutting technology for technical glass

**Wire mesh tearing machine GTM**

The wire mesh tearing machine GTM is used for continuous tearing of wired (armoured) cast glass during online transport.

The mesh tearing machine GTM is available in working widths from 1.600 mm up to 2.700 mm and allows up to 6 tearing cycles per minute.



glasstec.02.01.02 Glass saws

**Glass cutting- and refractory cutting machines PFE and LBS**

F+W offers various machines for cutting and milling of glass blocks as well as for refractory material.



**FOR.EL S.p.A.**



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**Product Overview**

FOR.EL S.p.A.

glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.08.03	Production equipment for insulating glass frames
glasstec.02.08.04	Edge deletion equipment
glasstec.02.08.05	Gas filling machines and gas devices

glasstec.02.08.06	Sealing techniques
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.09.03	Foil treating technology (storing, climate, uncoiling)
glasstec.03.04.01.02	PV system components
glasstec.05.03.02	Inspection, protocolling and diagnostic systems

### Product Details

FOR.EL S.p.A.

glasstec.02.01.01.02 Cutting technology for laminated safety glass

#### ART. VC3302 VC4502 VC6002

AUTOMATIC LINE FOR CUTTING STRATIFIED GLASS PANES



The operating process is revolutionary and fully automatic. The glass pane stays in a vertical position throughout all the processing and handling. Everything is managed by specifically created software that by exploiting the simultaneous and optimized use of two cutting bridges, together with the performance of the innovative processing cycle, enables cutting over 800"/8h. The FOR.EL cutting line offers: precision, evenly stretched PVB on all the cutting length, no breakage, calculation simulation of processing times and reduced work area.

Items VC3302, VC4502 and VC6002 have maximum cutting heights of 3300 mm, 4500mm, and 6000 mm respectively, and all have a minimum width of 110mm. The work process begins with the glass pane being picked up by the automatic loader. Before the cutting is carried out the mobile bridge checks and ensures that the pane is perfectly aligned with measures and movements that are extremely precise and quick. On the cutting bridge the pane is marked and cut; immediately after this special resistances soften the PVB membrane whilst a patented device stretches it evenly. The machine carries out up to three cutting levels (x,y,z). After the first, the panes rotate 90° thanks to the piece-revolving square and then undergo other cutting levels. Every operation is fully automatic and operators are required only to unload the finished products. As in all FOR.EL automatic machines, the industrial PC creates interfacing between the machine and operators with such functions as CONTROL, DIAGNOSTICS and STATISTIC MANAGEMENT. The "Diagnostics" of the functional condition of

a plant is a very important factor for management because it assists in reducing control times of any machine breakdowns by easy detection of the breakdown guided directly by the PC. On the PC monitor are displayed the images of the line's components and the exact point of an eventual breakdown is indicated.

The exceptional automatism features are enhanced if an automated storeroom is also used this way just one operator at the control station can manage storing and cutting in fully automatic mode and in total safety.

glasstec.02.03.01.01 Grinding techniques for straight edges

#### ART. EG2200 EG2250 EG2325



Automatic machine for the glass edges arrissing

The Automatic Arrissing Machine symmetrically arrisses the eight main edges of a glass pane in order to prevent/reduce cracks or breakages and to ensure safer handling of the glass pane itself. As a matter of fact, minute cracks are inevitably generated along the edges of a pane during the cutting stage and thus could jeopardize the integrity of the pane over the time and during subsequent processing, in particular during tempering.

The For.El. Automatic Arrissing Machine is highly modular and can therefore be installed either in a For.El. double-glazing line or in any other manufacturer's line, and can also be used individually upstream of the glass tempering process.

In a double-glazing line, Item EG series 2000 is positioned after the low-E Edge Deletion Robot (when installed in the line) and before the Washing Machine. For.El. also offers the Automatic Arrissing Machine combined with the Washing Machine (Item 2200-2250-2325). This solution amplifies the flexibility of the system because it uses conveyors of various lengths (according to specific needs) and thus enables the synchronism optimization between the two machines and the continuity of the production cycle.

The three models of the Automatic Arrissing Machine - EG2200-EG2250-EG2325 - respectively operate on panes up to 2000, 2500 and 3210 mm high. A floating "feeler" and two sensors mounted on each of the two heads detect datas concerning non rectilinearity and straightness of the sides of the pane to enable the two grinding wheels to be positioned precisely in order to trim and level the edges of the pane perfectly. 580mm(L) x 230mm(H) are the minimum

pane dimensions the machine can process.

For.El. has paid great attention to choice of materials. Abrasion due to the glass dust produced during processing and corrosion caused by the constant use of water are the reasons why stainless steel and aluminium are widely used. Consequently For.El.'s Automatic Arrissing Machine is extremely strong and long lasting.

Arrissing is carried out by means of an exclusive diamond wheel approach system that guarantees maximum precision and symmetry in defining the glass pane margin. The two heads enable the edging process to be carried out in one stroke; first the vertical side, simultaneously the two horizontal sides and lastly the second vertical side. The water used to cool down and lubricate the tools is collected in a settling tank and conveyed back to the machine by means of a pump.

For.El.'s Automatic Arrissing Machine limits cost and space, both in terms of the machine itself and maintenance. It simplifies maintenance and replacement of the components and ensures excellent quality of finished product and very high productivity.

For.El.'s Automatic Arrissing Machine was specifically designed to fully respond to the needs of both the double-glazing field and tempering field.

glasstec.02.08.04

Edge deletion equipment

#### ART. EB4501

##### SEMI AUTOMATIC EDGE BREAKING MACHINE

The For.El Semi-automatic Breaking Machine performs cutting of strips of pre-marked laminated glass panes. The For.El Vertical Cutting Table carries out complete cutting (marking/cutting/PVB stretching and separation) of strips of laminated glass of the minimum dimension of 110mm. That is why the use of this machine is fundamental to complete For.El. vertical table cutting operations of strips having dimensions less than 110mm, guaranteeing precision, functionality and safety.



The strip marked by the For.El. Vertical Cutting Table is horizontally tilted by the tilting table of the line and, supported by an air cushion, is positioned on a special reference mark for cutting by the operator. This reference mark is calibrated in relation to the size of the scrap the operator has manually verified beforehand and set on the control panel. The working cycle is realized with step by step movements the operator controls with a special pushbutton. A pincer clasps the glass and performs cutting of the upper and lower glass and stretches the PVB membrane. A special resistor softens the PVB membrane. Stretching is applied in an even and adjustable way to ensure minimum heating of the membrane and also of the glass. Once this step has been carried out, the operator, with the use of a cutter, carefully cuts the PVB membrane. This final step allows unloading of the scrap into the special container that is found below.

The For.El Semi-automatic Breaking Machine is able to work on laminated glass from 3+3mm to 6+6mm and on scrap having widths from 30mm to 110mm and a maximum length of 4500mm.

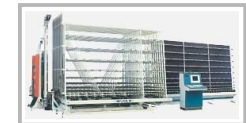
The machine is equipped with a mobile table that the operator can walk on and reach the operating area of the machine easily and safely.

glasstec.02.08.05

Gas filling machines and gas devices

#### ART.GF2200 GF2250 GF2300

##### AUTOMATIC GAS FILLER



Automatic machine for the filling of double-glazed units with gas.

Gas or gas mixtures are introduced into double-glazing units to reduce heat transmission or to increase soundproofing features. With articles GF2200, GF2250 and GF2300, For.El. apply a unique and patented filling procedure, which is known as "laminar" filling.

This procedure guarantees complete and constant filling (up to 99-100%) with hardly any waste at all. These results are far to be achieved with turbulent flow systems commonly in use at the moment. These quality and efficiency standards become even more essential when using special and expensive gases such as Krypton or Xenon. The units in arrival from the production line can be channelled into any one of 10 independent and mobile filling stations. While the units are stationary in these stations the machine fills each unit with one or more



mixed gases through two holes, which have been drilled on the outer side of the spacer frame. The gas permeates into the chamber through the micro-holes on the inner side of the spacer frame. A processor monitors the current procedures constantly, analysing the oxygen content through the hole drilled at the top of the vertical side of the spacer frame and optimising the processing time as well as the consumption of gas. The operator can also check the flow rate of each station by means of a data graph on the PC screen. Once filling has been completed, the holes are plugged with butyl rubber.

This organisation guarantees production continuity for the subsequent stage, which is secondary sealing. By including the spacer frame processing machines (art. PBN632 art. DFN632), the quality of the final product is further enhanced; only with the solutions offered by For.El., can those areas where the spacer frame requires sealing, remain totally intact.

glasstec.02.08.06

Sealing techniques

#### Art. SA1320 SA1325 SA1332

#### AUTOMATIC SEALING MACHINE



Automatic machine to carry out the second sealing of double glazing or triple glazing panels with high-viscosity single or two-component sealing products.

The automatic sealer carries out the final sealing of double glazing panels or – optionally – of triple glazing panels with high-viscosity single or two-component sealing products. A special sensing system detects at inlet the geometric features of the panel, such as: the thickness of the back pane, the thickness of the frame and the total thickness. According to these parameters and to the local and continuous sensing of the "depth" of the frame, a PLC controlled logic controls the process. The innovative and accurate sealing robot spreads uniformly the sealant along the whole perimeter of the panel. A special pad carries out the retouch and finishing of the corners. The finished panel stops on the outfeed conveyor, where the operator can pick it up by hand or with the For.El. manipulator. The articles SA1320, SA1325 and SA1332 can work pieces up to 2000, 2500 and 3210 mm high with sealants that can be extruded from a pumping unit or from a manual extruder.

These features make the automatic sealer a state-of-the-art functional article; all of this means an excellent sealing quality.

#### Forvet S.r.l.

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Stand	Hall 16, C59 (Page 652)

#### Product Overview

Forvet S.r.l.

glasstec.02.02

Drilling technology

glasstec.02.03.01.01

Grinding techniques for straight edges

#### Product Details

Forvet S.r.l.

glasstec.02.02

Drilling technology

#### FC JUNIOR

The high technology machine Forvet FC JUNIOR is capable of executing drilling and countersink operations on flat glass sheets.



The machine program is easily generated by simply entering the X and Y co-ordinates of the holes to be drilled into the Numerical control. The NC then automatically drives the positioning device step by step.

The NC, if requested, also automatically performs the countersink operation,

without making another program.

The tools are located on ISO30 cones with an automatic fixing system so that changing tools is very simple and very fast and does not require any manual adjustments.

The machine consists of a rigid 'C' structure that supports the upper and lower drilling heads and the glass is supported on the special table that utilises the 'hydrostatic system' (patented), where the glass never comes into contact with the table as it floats on a cushion of water making glass positioning very easy and eliminates scratching of the glass surface.

### Francesca FC 600



The FRANCESCA FC600 is a fully Numerically Controlled (NC) glass working centre, capable of performing drilling and countersinking operations on flat glass sheets, including "out of square" pieces.

The useful working field in width is 600mm and is without restriction in length.. Additionally, there are no inter- axis restrictions between hole locations.

The working cycle is completely automatic, without any manual intervention. The NC optimises the approaching speed of the heads, controls the glass transport feed, drilling speed and water quantity and adjusts the drill length to compensate for its wear.

The operator is required only to place the glass panel on the machine entry conveyor referencing it toward the zero reference.

### INTEGRATED GRINDING - DRILLING LINES

The combination of the highly developed Chiara grinding lines and the very well established Francesca FC Series gives the user incredible flexibility and productivity.

The latest example of intergrating the two systems has proved that working with a sole supplier offers the user many strong advantages.

Flexible production of polished doors with notches and door handles with holes, ground kitchen appliance glasses with holes and milled slots and structural facades with deep countersinks for Structural Bolt Assemblies. All this without manual intervention.

### glasstec.02.03.01.01 Grinding techniques for straight edges

#### Chiara MT

The Chiara MT edge processor is an automatic, numerically controlled grinding machine capable of grinding all four sides of the glass, simultaneously.



The Chiara is available in two sizes: 2000 X 3000 mm or 2500 X 4600 mm.

The Chiara MT is capable of grinding the flat edge and top and bottom arris's or just the arris's alone. The CNC control allows the machine to grind even arris's on the glass edge or with a 45 degree mitre on one side. The machine compares the actual glass dimensions with the programmed glass dimensions and automatically adjusts the glass removal by controlling the speed of the grinding heads.

The machine can process random piece sizes, glass thicknesses and quantities without adjustment. As the glass is being conveyed into the work area the machine automatically sets itself for that specific piece, almost eliminating set up time for random pieces.

The CNC computerised control constantly manages the wheel wear compensation, glass removal, glass thickness and wheel speeds. Modern connection enables remote service and maintenance programs.

The Chiara layout only requires 50% of the area of a comparable Double Edging Line and can easily be connected to other equipment such as in line drilling and washing machines.

All Chiara models are fully compatible with all Low E Glass types because there is no contact with the top surface at any time.

#### Chiara MTA

The Chiara MTA edge processor is an automatic, numerically controlled grinding machine capable of grinding all four sides of the glass, simultaneously.



The Chiara MTA is available in two sizes: 2000 X 3000 mm or 2500 X 4600 mm.

The Chiara MTA is produced to grind arris only. The CNC control features, allow the machine to grind the arris with symmetric removal or with 45° angle in one side.

The Chiara MTA can process 6 pieces of glass 1metre square every 60 seconds. The machine does not require any data from the operator or from any mainframe order entry system.

Once the glass is loaded, the machine automatically measures the length, width and thickness of the glass and sets all four grinding heads accordingly as the work piece is conveyed into the machine.

The machine can handle random piece sizes, thicknesses and quantities with the operator making any adjustments.

The CNC computerised control constantly manages the wheel wear compensation, glass removal, glass thickness and wheel speeds. Modern connection enables remote service and maintenance programs.

The Chiara layout only requires 50% of the area of a comparable Double Edging Line and can easily be connected to other equipment such as in line drilling and washing machines.

All Chiara models are fully compatible with all Low E Glass types because there is no contact with the top surface at any time.

## Forza G Italia S.r.l.



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## Product Overview

Forza G Italia S.r.l.

glasstec.02.03.07 Water treatment for grinding technology

glasstec.21.03 Special offers for architects

## Product Details

Forza G Italia S.r.l.

glasstec.02.03.07 Water treatment for grinding technology

### SOLID LIQUID SEPARATOR TRUE CENTRIFUGE

Separation process true centrifugal system on closed loop: the process water will be recycled 100%. The system don't dispel water to environment. There will be a decrease of water due to evaporation that need to be fill regulary. 1. Inflor sump for recuperate the process fluid 2. Idro Cyclon for poll down pollution in the water 3. Cone to accumulate solids 4. Purify waters 5. Centrifugal separator 6. Recover water of second process 7. Re-launching purify water to production 8. Overflow in case of excess of water (anomaly) 9. Electrovalve 10. Electrovalve overflow 11. Level sensor

Features:

### SOLID LIQUID SEPARATOR TRUE CENTRIFUGE

The process of contaminated fluid happen in this way:

Process contaminated waters true the cannels fall to inflorsump (1). From this tank the fluid will be pumpt to the Cyclon tank (2). Here due to the pomp pression the solid will be pushed to the cone were they buildup (3). Meanwile the clean water, lighter, will go back to the inner cylinder due to gravity (4). The sludge (lime) buildup at the cone bottom will be pumped into the centrifuge (5). Here the sludge will be press to the bowl side and the purify water fall to the under tank (6). From vere it will be pumped to the inner cylinder (clarify waters) (4). True piping system the purify water will be pumped back to production machines (7). The purify water goes back to machine, will be contaminated again, come again to inflorsump and will restart the separation continuosly.

If there is no overflow filling there will not be dispel water to environment. This process don't need any chemicals or filter to acheive result.

## Foshan Shunde Hiseng Glass Machinery Co., Ltd.

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### Product Overview

Foshan Shunde Hiseng Glass Machinery Co., Ltd.

glasstec.02.03.01.01 Grinding techniques for straight edges

glasstec.21.03 Special offers for architects

### Product Details

Foshan Shunde Hiseng Glass Machinery Co., Ltd.

glasstec.02.03.01.01 Grinding techniques for straight edges

#### HSE-9540 Glass Straight Line Multilevel Edging Machine

HSE-9540 glass straight line multilevel edging machine can grind the straight line and multilevel corner angle on flat glass of different size and thickness. It applies to crude & fine grinding, polishing complete in one procession. Motor assembles and adjusts in a large range. It has many assembled forms to suit different demand of grinding and different glass products. Use the stepless change to adjust the process speed, easy to operate equipment. It is a necessary tool for glass processing.



## Fotec AG

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Stand	Hall 12, C57 (Page 636)

### Product Overview

Fotec AG

glasstec.02.03.08.04 Other printing technology

### Product Details

Fotec AG

glasstec.02.03.08.04 Other printing technology

#### FOTECOAT 1069 - Diazo Kopierschicht; doppelhärtend

Für den Druck mit Wasser- oder Lösemittelfarben, ideal für Plastisol und abrasive Farben sowie Glasdekoriations-Druck. | Schnelle doppelhärtende Fotopolymer-Kopierschicht, blau. | Sensibilisierung mit separat mitgeliefertem Diazo-Pulver: C2 für 1 kg, C7 für 4,5 kg fertig sensibilisierte Schicht. | Die druckfertigen Schablonen können nachbelichtet werden, um die Widerstandsfähigkeit zu erhöhen. | Die chemische Härtung ist notwendig für extra hohe Auflagefestigkeit.

## Fotoverbundglas Marl GmbH



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### Company News

Fotoverbundglas Marl GmbH

#### 07/14/2010 FotoVerbundGlas

FOTOVERBUNDGLAS IS AN ACCREDITED LAMINATED  
SAFTYGLAS MADE IN GERMANY

STRUCTURAL GLAZING FOR IN- AND OUTDOOR

WE CAN MAKE FOR YOU A PICTURE PROPOSAL OR YOU  
CAN CHOICE A MOTIVE FOR YOUR OWN: THAN WE BUILD  
FOR YOU YOUR INDIVIDUAL "WORK OF ART"



### Product Overview

Fotoverbundglas Marl GmbH

glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.21.02	Special offers for glass trade / crafts
glasstec.21.03	Special offers for architects

### Product Details

Fotoverbundglas Marl GmbH

glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
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#### Fotoverbundglas/LamipressVario



Lieferleistung: Bausicherheitsglas mit Digitaldruck- bedru  
PVB-Folie- Verbundglas mit Effektfolien, Drahtnetz oder  
verschiedene Transparenzstufen- Lohnverbund- Verbundanlage ohne Vorver-  
bund und Autoklave: LamipressVario\_

Glasverbund ohne Kantenversatz! Funktionales Designerglas durch verschiedene  
Transparenzstufen!

#### Fotoverbundglas/LamipressVario



Fotoverbundglas Marl GmbH produziert Sicherheits-  
glas(PVB) mit Digitaldruck in der LamipressVario ohne  
Vorverbund autoklavfrei, kleiner Produktionsraum, geringe  
Maschinen- Energiekosten, keine Verbrauchsmateri-  
alien und klimatisierte Produktionsräume! Kein Kanten-  
versatz!

Hier sehen Sie eine Umsetzung mit der Firma Schollglas auf der letzten  
Glasstec.

## Fratelli Pezza S.r.l.



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### Product Overview

Fratelli Pezza S.r.l.

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

### Product Details

Fratelli Pezza S.r.l.

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

#### NEW SAND-BLASTING MACHINE

Fratelli Pezza will be presenting its brand-new, state-of-the-art Mistral 180V. The new software makes this machine unique in their field.

#### NEW SAND-BLASTING MACHINE

Fratelli Pezza will be presenting its brand-new, state-of-the-art Mistral 180V. The new software makes this machine unique in their field.

## Fraunhofer-Institut für Lasertechnik ILT



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### Product Overview

Fraunhofer-Institut für Lasertechnik ILT

glasstec.02.01.01.01 Cutting technology for float glass

glasstec.02.01.01.03 Cutting technology for technical glass

glasstec.02.02 Drilling technology

glasstec.02.05.01 Laser-isolating technology

glasstec.02.05.02 Laser-marking technology

glasstec.02.05.03 Laser-removing technology

glasstec.02.05.05 Components and accessories (Laser technology)

glasstec.03.10.01.04.04 Nano coating technology

**Product Details**

Fraunhofer-Institut für Lasertechnik ILT

glasstec.02.05.01

Laser-isolating technology

**Laserschneiden**

Verfahrensentwicklung

Schneidprozesse für CO2-Laser, Festkörperlaser, neue Strahlquellen

Hochgeschwindigkeitsschneiden

Remote-/ Scannerschneiden

Dickblechschneiden

Schneiden neue Materialien

Komponenten zum Laserstrahlschneiden

Entwicklung und Qualifizierung kundenspezifischer Lösungen

Schneidköpfe

Düsendesign, Optimierung von Schneidgasströmungen mit Schlierendiagnostik

Optikauslegung für Laserschneidwerkzeuge

Abstandsregelung

Kombibearbeitung: Schneiden und Schweißen mit einem Werkzeug

Simulation und Analyse von Schneidverfahren

Überwachung, Steuerung und Regelung von Prozess und Komponenten

Applikationsspezifische Lösungen

Machbarkeitsstudien

Musterteile und Verfahrensdemonstrationen

Verfahrensimplementierung

**Fraunhofer-Institut für Schicht- und Oberflächentechnik (IST)**

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**Product Overview**

Fraunhofer-Institut für Schicht- und...

glasstec.02.06.01

Vacuum coating equipment

glasstec.02.06.08

Sputtering targets for glass coatings

glasstec.02.14

Nanotechnology

glasstec.03.02.04.03

Heat insulation glass

glasstec.03.02.07

Other coated types of glass

glasstec.03.02.09

Curved glass

glasstec.03.02.12

Self-cleaning glass

glasstec.03.02.13	solar glass
glasstec.03.03	Automotive glass
glasstec.03.04.01.01.02	Thin film PV panels
glasstec.05.01.05	Control and automation technology
glasstec.06	Contracting, consulting, engineering, services
glasstec.07.05	Research institutes and projects
glasstec.21.01	glass technology live

#### Product Details

Fraunhofer-Institut für Schicht- und...

glasstec.02.14 Nanotechnology

#### Von Mikro- und Nanotechnologie zu Smart Tools

In der Gruppe MST werden zahlreiche innovative Projekte aus dem Bereich der Mikrosystemtechnik bearbeitet. Das Ziel der Forschungsarbeiten sind technische Lösungen, die ein hohes Maß an Funktionalität mit einem geringen Anspruch an Raum und Energie verbinden. Die Aktivitäten reichen vom konzeptionellen Design von Mikrosystemen über die Prototypenfertigung neuartiger intelligenter Werkzeuge, den so genannten Smart Tools, bis hin zum Transfer technischer Lösungen an industrielle Partner. Das Spektrum der Mikro- und Sensortechnik umfasst ultradünne sensorische Oberflächen für Anwendungen, z. B. in Werkzeugen und Maschinen; oberflächenintegrierte Kraft-, Druck-, Kapazitäts- und Temperatursensoren; magnetische, verschleiß- und reibungsmindernde Schichten sowie Mikrostrukturierung von Oberflächen. Es werden hierbei unterschiedliche Verfahren aus Mikro- und Nanotechnologie nutzbar gemacht, z. B. Plasmatechnologie (u. a. PACVD-Verfahren und Magnetron-Sputtern), Photolithographie, Plasma- und Ionenätzung, Laserstrukturierung und zudem verschiedene Methoden der Schichtcharakterisierung und -prüfung.

Unsere Aktivitäten umfassen unter anderem folgende Bereiche:

\* Intelligente Werkzeuge - Smart Coatings: Oberflächenintegrierte Dünnschichtsensoren zur Messung von Temperaturen, Kraft und Verschleiß direkt auf dem Werkzeug \* Lotuseffektartige Oberflächen z. B. für Maschinenbauteile, mikrostrukturierte Zylinderoberflächen, z. B. für die Druck- und Prägeindustrie \* Ionen- und

Plasmaätztechnologie zur Herstellung von Mikromustern in unterschiedlichen Schichtwerkstoffen \* Entwicklung von Verfahren zur Herstellung von magnetischen Mikrostrukturen auf Maschinenbauteilen

#### Fraunhofer-Institut für Schicht- und Oberflächentechnik (IST)

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#### Product Overview

Fraunhofer-Institut für Schicht- und...

glasstec.02.06.01	Vacuum coating equipment
glasstec.02.06.08	Sputtering targets for glass coatings
glasstec.02.14	Nanotechnology
glasstec.03.02.04.03	Heat insulation glass



glasstec.03.02.07	Other coated types of glass
glasstec.03.02.09	Curved glass
glasstec.03.02.12	Self-cleaning glass
glasstec.03.02.13	solar glass
glasstec.03.03	Automotive glass
glasstec.03.04.01.01.02	Thin film PV panels
glasstec.05.01.05	Control and automation technology
glasstec.06	Contracting, consulting, engineering, services
glasstec.07.05	Research institutes and projects
glasstec.21.01	glass technology live

#### Product Details

Fraunhofer-Institut für Schicht- und...

glasstec.02.06.01 Vacuum coating equipment

#### Neues Beschichtungsmodul zur Erhöhung der Sputterrate

Mit dem neuen Beschichtungsmodul C-MAG kann die Sputter-Beschichtungsrate eines herkömmlichen doppel Magnetrons um ca. einen Faktor zwei bis sechs gesteigert werden. Das doppel-Magnetron besteht aus zwei rotierenden Target Röhren. Hinter jedem Target Rohr ist jeweils ein weiteres planares (sekundäres) Target angeordnet mit dem in die rotierenden Targets eine weitere Materialkomponente implantiert werden kann. Durch die Implantation kann die Sputterrate des doppel Magnetrons für geeignete Material Kombinationen erheblich gesteigert werden.

#### Frenzelit-Werke GmbH & Co. KG

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Fax	+49 9273 72-222
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Stand	Hall 13, E38 (Page 640)

#### Product Overview

Frenzelit-Werke GmbH & Co. KG

glasstec.01.02.01	Refractory materials
glasstec.01.13.09	Parts for conveying, transport, packing and warehouse technology
glasstec.02.11.02	Replacement and spare parts
glasstec.02.11.03	Insulating C203materials
glasstec.02.11.04	Sealants
glasstec.04.04	Replacement part, wearing parts

**Product Details**

Frenzelit-Werke GmbH & Co. KG

glasstec.02.11.03

Insulating C203materials

**Gummikompensatoren**

Eigenschaften

Aggressive Medien, Bewegungen, Schwingungen, Vibrationen und unterschiedlichste Druckverhältnisse, dazu extreme Temperaturen: Wer im Anlagen- und Maschinenbau Verantwortung übernehmen will, muss für die unterschiedlichsten Aspekte Sorge tragen.



Die individuellen Einsatzbedingungen und Dimensionen im industriellen Anlagenbau erfordern maßgeschneiderte Lösungen. Hochwertige Kompensatoren sind hierbei ebenso sinnvoll wie wirtschaftlich.

Deshalb steht bei Frenzelit die persönliche Beratung durch unsere Ingenieure im Vordergrund. Gemeinsam mit Ihrem Team besprechen wir Ihre Wünsche sowie die technischen Anforderungen an die Kompensatoren und erstellen daraus ein detailliertes Angebot mit entsprechender Spezifikation.

Dabei profitieren Sie gleich doppelt: Einmal durch unser breites anwendungstechnisches Wissen im Bereich von Kompensatoren. Zum anderen nutzen Sie die Erfahrung von mehr als vier Jahrzehnten Produkt und Werkstoffkompetenz

**Isolierkissen**

für akustische Anwendungen und thermische Isolation

Beschreibung

Basismaterial sind speziell entwickelte isoGLAS® und isoTHERM® Gewebe, die zu Kissen konfektioniert werden.



Die Füllung besteht aus isoGLAS® - und isoTHERM® -Nadelvlies oder Basalt.

Formen

individuelle Auslegung gem. Einbausituation und technischen Anforderungen

glasstec.02.11.04

Sealants

**novapress® BASIC**

Das gute Standarddichtungsmaterial für mittlere Druck- und Temperaturbeanspruchung. Der Einstieg in den Flachdichtungsbereich. Die Qualität bietet ein hervorragendes Preis-/ Leistungsverhältnis, welches in dieser Klasse seines Gleichen sucht.



**Friedrich Goldmann GmbH & Co. KG**

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Fax	+49 621 481100
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E-Mail	info@f-goldmann.de
Stand	Hall 12, A36 (Page 636)

**Product Overview**

Friedrich Goldmann GmbH & Co. KG

glasstec.02.03.03

Matting/Supercalendering/etching/sand blasting technologies

**Product Details**

Friedrich Goldmann GmbH & Co. KG

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

**Pipe blasting unit 3000 B**

Integrated spoke-wheels pick up and turn the axles and pipes which can be put into the unit through the sliding front door.. By the use of the roof oscillation the working piece can be treated outside. By the use of an inner blasting nozzle, the pipe can also be blasted inside.



**futronic GmbH**

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Stand	Hall 13, C23 (Page 640)

**Product Overview**

futronic GmbH

- glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)
- .....
- glasstec.02.13.02 Software
- .....
- glasstec.05.01.01.02 Measurement and control of viscosity
- .....
- glasstec.05.01.05 Control and automation technology
- .....
- glasstec.05.02.01 MRP machine and transport adjustment
- .....
- glasstec.05.02.03 Electronically controlled machine cooling
- .....
- glasstec.05.03.02 Inspection, protocolling and diagnostic systems

**Product Details**

futronic GmbH

glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

**Transporthilfe Röllchenleiste**

Zur Reduzierung von Rückstaus beim Glasbehältertransport haben sich unsere Röllchenleisten bewährt. Um besonders bei Richtungswechseln der Bänder oder an kritischen Punkten, wie z.B. Zusammenführungen zweier Produktionslinien, eine sichere und stauarme Führung der zu transportierenden Produkte zu sichern, werden die futronic-Röllchenleisten anstelle der herkömmlichen Führungsleisten montiert. Sie bieten eine optimierte Seitenführung, um Störungen beim Behälterablauf zu verhindern.

## G.F.P.M. S.r.l.

Address	Via Lago di Bracciano, 16 36015 Schio / VI Italy
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E-Mail	info@gfpm.it
Stand	Hall 11, F68 (Page 632)

### Product Overview

G.F.P.M. S.r.l.

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.01.03	Devices for coating removal
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.01.04.02	Thermal snapping devices
glasstec.21.02	Special offers for glass trade / crafts
glasstec.21.03	Special offers for architects

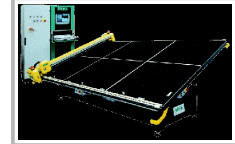
### Product Details

G.F.P.M. S.r.l.

glasstec.02.01.01.01 Cutting technology for float glass

#### Automatic table for straight cutting of float glass

300/600



#### Automatic table for straight cutting of float glass

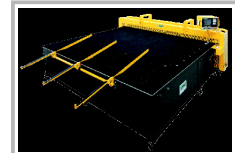
300/600



glasstec.02.01.01.02 Cutting technology for laminated safety glass

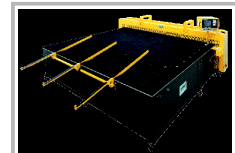
#### Automatic table for straight cutting of laminated glass

GTL 3230/4030



#### Automatic table for straight cutting of laminated glass

GTL 3230/4030



#### Glass cutting tables and lines

GTS 300

Automatic shape cutting table with laser scanner and Low-E edge deletion.

Possibility of laminated glass cutting and scoring of sand blasting vinyl scoring

GTL 4030

Laminated glass cutting table with edge deletion. Possibility of float cutting

#### Glass cutting tables and lines

GTS 300

Automatic shape cutting table with laser scanner and Low-E edge deletion.

Possibility of laminated glass cutting and scoring of sand blasting vinyl scoring  
GTL 4030  
Laminated glass cutting table with edge deletion. Possibility of float cutting

## Galaxy Chemical (Dalian) Co., Ltd.

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Stand	Hall 13, E15 (Page 640)

### Product Overview

Galaxy Chemical (Dalian) Co., Ltd.

glasstec.02.11.03 Insulating C203materials

### Product Details

Galaxy Chemical (Dalian) Co., Ltd.

glasstec.02.11.03 Insulating C203materials

### 13X Molecular Sieve



#### Introduction

Molecular Sieve 13X is the sodium form of the type X crystal and has a much larger pore opening than the type A crystals. It will adsorb molecules with a kinetic diameter of less than 10 Angstrom (1.0nm) and exclude those larger. It also has the highest theoretical capacity of the common adsorbents and very good mass transfer rates. It can remove impurities too large to fit into a type A crystal and is commonly used to separate nitrogen from

oxygen.

#### Typical Chemical Formula

Na86 [(AlO2)86(SiO2)106].XH2O

#### Application

Molecular Sieve 13X is mainly used for refinement since it implements simultaneous absorption for bi-molecule and tri-molecule and can be applied for liquefied and gaseous materials on the whole. Main adsorbing target are carbon dioxide, sulfuretted hydrogen and mercaptan including water and it can adsorb all the material whose molecular diameter is less than 10A. The main uses are as follows. 1) Air refining (removing CO2 and H2O) 2) Removal of mercaptans and hydrogen sulphide from natural gas using patented Zeochem technology 3) Removal of mercaptans and hydrogen sulphide from hydrocarbon liquid streams (LPG, butane, propane etc.) 4) Oxygen PSA (Pressure Swing Adsorption) process 5) special double glass (removing solvent and grease)

#### Regeneration

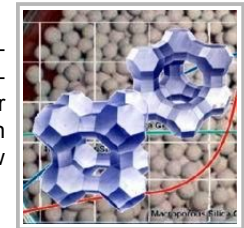
Molecular Sieve Type 13X can be regenerated by evacuating or purging, usually at elevated temperatures. The purge gas temperature must be sufficiently high to bring the molecular sieve to a level of 250°C - 300°C. A properly regenerated molecular sieve can produce dew points below -100°C, mercaptans and CO2 levels <2 ppmv

#### Storage & Package

Prevention against moisture, let it away from water, lube oil, acid and alkali material. Package of 20 kg carton, drum, 200 L steel drum are available.

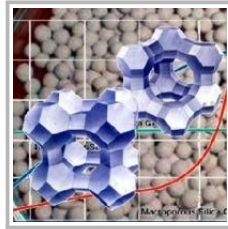
#### molecular sieve

GLASMOL of Molecular sieve 3A (Desiccant) is specially designed for insulating glass unit, have the following advantages (Tested by IFT & Cekal as per EN1279): 1) High water adsorption: 20% min 2) High crush strength: 16 N/bead 3) Low gas desorption 4) Low dust.



## Molekularsieb

Molekularsieb



## Gardner Denver Schopfheim GmbH

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Stand	Hall 12, F31 (Page 636)

### Product Overview

Gardner Denver Schopfheim GmbH

glasstec.02.11.06	Compressor
glasstec.02.11.07	Vacuum pumps

### Product Details

Gardner Denver Schopfheim GmbH

glasstec.02.11.06 Compressor

#### Drehzahlgeregelte Rotationsverdichter

Die Wiederverwendung wertvoller Rohstoffe ist das Gebot der Stunde. Die Glasindustrie ist dabei sehr anspruchsvoll. Sie akzeptiert im Altglas nur noch einen minimalen KSP-Anteil. Diesem hohen Anspruch müssen moderne Altglas-Aufbereitungen gerecht werden.



Durch die Verknüpfungen von Laser- und Drucklufttechnik mit hochwertiger Elektronik lassen sich unerwünschte kleine Metallteile, Steine, Porzellan- und Keramik-Scherben (sog. KSP) aus Altglas eliminieren. Optimale Ausscheidergebnisse mit minimalen Glasverlust werden nur erzielt, wenn trotz eines stark schwankenden Druckluftbedarfs ein sehr konstanter Druck zur Verfügung steht. Mit dem größten Teil der erzeugten Druckluft wird Altglas von KSP- und Metallteilen sowie von fehlerhaftem Glas in Weißglas getrennt. Zusätzlich werden lediglich einige wenige Druckluftzylinder zum Öffnen und Schließen von Klappen versorgt. Die Druckluft für den stark schwankenden Bedarf erzeugen drehzahlgeregelte, luftgekühlte Rotationsverdichter mit Öleinspritzkühlung von Gardner Denver Wittig.

Beeindruckend sind die hohe Zuverlässigkeit und der geringe Verschleiß dieser Technik trotz des hohen Staubanfalls. Die optimale Anpassung an schwankenden Bedarf zeichnen diese Verdichterbauart besonders aus. Diese langlebigen, robusten Maschinen garantieren durch ihre ökonomische Betriebsweise und durch ihren geringen Wartungsaufwand eine besonders wirtschaftliche Druckluftherzeugung.

glasstec.02.11.07 Vacuum pumps

#### Vakuumpumpen G-BH1 00

Volumenstrom 21 bis 35 m³/h

Leistungstärke auf engstem Raum. Mit einer Höhe und Breite von ca. 125 mm und einer Tiefe von ca. 60 mm ist die G-BH1 00 der kleinste Seitenkanalverdichter auf dem Markt. Der Ansaugvolumenstrom ist präzise stufenlos regelbar - es wird immer nur genau die Leistung bereitgestellt, die auch tatsächlich benötigt wird.

Diese Geräte werden vorwiegend in der Medizintechnik, Verpackungstechnik und in feinmechanischen Anwendungen eingesetzt, sind aber so robust und langlebig, dass sie auch in anderen Industriebereichen wie dem Maschinenbau verwendet werden. Die G-BH1 00 wird angetrieben mittels eines elektronisch kommutierten Gleichstrommotors, wodurch ein hoher Wirkungsgrad und ein

wartungsfreier Betrieb über mehr als 20.000 Betriebsstunden sichergestellt wird. Die Betriebselektronik ist bereits in der Maschine integriert. Sie ermöglicht eine stufenlose Drehzahl-Leistungsänderung des Gebläses und kann in die Steuerung der Anlage integrierte werden.

## GfE Fremat GmbH



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E-Mail	fremat@gfe.com
Stand	Hall 12, D66 (Page 636)

### Product Overview

GfE Fremat GmbH

glasstec.02.06.08	Sputtering targets for glass coatings
glasstec.02.06.09	Mirror coating products

### Product Details

GfE Fremat GmbH

glasstec.02.06.08	Sputtering targets for glass coatings
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#### Sputtertargets

Wir produzieren Sputtertargets, durch Thermisches Spritzen beschichtete Bauteile, Spezialhalbzeug aus hochschmelzenden Nichteisen-Metallen (Refraktärmetalle) und Sonderwerkstoffe.

glasstec.02.06.09

Mirror coating products

### Cr3C2-Ni - Beschichtung

## GfE Metalle und Materialien GmbH



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### Product Overview

GfE Metalle und Materialien GmbH

glasstec.02.06.08	Sputtering targets for glass coatings
glasstec.02.06.09	Mirror coating products

**Product Details**

GfE Metalle und Materialien GmbH

glasstec.02.06.08

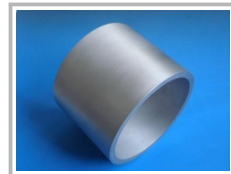
Sputtering targets for glass coatings

**AZOY**

The vast growth of the photovoltaic market made it necessary to lead up the known technologies for large area coating to the field of PV coatings. This market growth requires larger coating scale and higher rate coating processes for the deposition of the "thick" contact layers in PV applications. AZOY® rotatable targets with Freiloc® V4 bonding for TCO layer deposition are now available in jumbo size. GfE Fremat developed several bonding solutions under the name Freiloc®. Along with others, there are two types of Freiloc® bonding designed for applications with different sputter power levels: - Friction-locked Version 3 (Freiloc® V3) for low sputter power up to 10 kW/m and; - Version 4 (Freiloc® V4) for sputter power up to 18 kW/m right now. In the case of Freiloc® V4 bonded Targets the heat transmission resistance is much lower compared to friction-locked Freiloc® V3 target thus enabling higher sputter power to be applied. But not only the PV-industry benefits from the advantages of a AZOY® rotatable target. Flatglas industry can utilize the higher performance to save on cathodes dedicated to the ZnO-film in the coater.



**CIG Target**



**Molybdenum Targets**

The Freiloc® bonding technology is transferred to the bonding of Molybdenum Segments to enable a stressless and, by avoiding the usage of Indoum, a cost-effective fixation onto the backing tube. Compared to sprayed Mo-Targets the powdermetallurgical Molybdenum Segments show a significantly lower Oxygen content. Recycling of the spent targets becomes much easier and so having an advantage from the economical and ecological point of view. The reduced consumption of raw material in comparison with monolytical targets are aiming to the same direction.

**Si Targets**



glasstec.02.06.09

Mirror coating products

**CROMA**

GfE recently developed a new chromium target material as an ideal substitute for high purity chromium.

As one of the major metals used for adhesion and barrier layers, chromium is applied onto the substrate in order to prevent corrosion and diffusion of the substrate material into the upper layers. This significantly enhances the durability of the coating and promotes the adhesion of the subsequent deposited layers.

GfE's CROMA is an ideal substitute for high purity chromium targets. Being more cost effective, CROMA achieves the same high-quality coating characteristics as the commonly used electrolytic chromium.

CROMA is applied for sunlight absorbent layers in solar collectors. The company INTERPANE Solar Beschichtungs GmbH & Co. (<http://www.interpane.net/>) has already successfully used GfE's CROMA. Other fields of application are for example reflective layers for rear-view and wing mirrors in the automotive industry, as well as wear resistant layers in the tool coating industry.



## Glassline Corporation



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### Product Overview

Glassline Corporation

glasstec.02.01.01.01 Cutting technology for float glass

glasstec.02.02 Drilling technology

glasstec.02.03.01.01 Grinding techniques for straight edges

glasstec.02.03.01.02 Grinding techniques for patterned glass

glasstec.02.03.07 Water treatment for grinding technology

glasstec.02.03.08.01.01 Screen printing techniques

glasstec.04.02 Cutting, grinding and drilling tools

### Product Details

Glassline Corporation

glasstec.02.01.01.01 Cutting technology for float glass

#### CNC Glass Cutting Machines

GLASSLINE CNC Cutters feature\* a PATENTED CUTTING HEAD with a direct drive system that eliminates belts and gears, improving accuracy and reducing maintenance costs

The direct drive unit eliminates mechanical backlash in a belt and gear driven system. Cutting pressure is regulated by the CNC system via a servo valve allowing for fully programmable pressures throughout the cut. This allows cut pressure to be optimized based on shape and speed. A digital readout is also provided. A special sensor is used to monitor if the wheel is on the glass, which can save damage to the cutting head. Specially designed mounting to enable easier calibration. McInnis brand precision tool holder. Specially designed cutting oil delivery system including a check valve located at the cutting head to reduce waste

glasstec.02.02

Drilling technology

#### Glassline Model D1128 X-Y Table

CNC DRILL FEATURES:

- Spindle speed variable to 5,400 R.P.M.
- 20" throat depth (24" depth optional)
- 4 1/2" opening under clamp for auto load
- Oil mist spindle lubrication
- Available in single head or multiple heads
- Multiple head drills available on a variety of bases including the granite, water flotation type (Model D1120)
- Drill feeds and speeds are auto set-up
- A touch screen is used to input part and hole data
- Hole sensing through feed back feature
- Glass thickness range from 3-12mm, other thickness optional
- Speed and feeds CNC controlled by X86 compatible computer
- Special for hole chamfering due to programmable changes in feed speeds
- Auto tool wear adjustment feature



- Quick change tooling of core drills

glasstec.02.03.01.02 Grinding techniques for patterned glass

### Edge Grinding Machines for Shapes

One of Glassline's main specialties is the production of precision CNC Edge Grinding machines for shaped glass. Having launched our CNC machinery production more than 20 years ago for the automotive industry, we have extensive experience in order to provide you a very precise, repeatable glass grinding process. Our CNC Controls have been developed specifically for glass grinding, and therefore have application specific screens and parameters, which are easier to use than other off-the-shelf CNC controls. The CNC Controls are Windows Based, with a touch screen interface. Commercially available hardware is used in order to provide longevity of availability, at reasonable cost.

We have many different grinding system styles to choose from, in order to serve our Customers' varied needs. All machines can be sold as stand-alone machines, can be automatically loaded / unloaded, or can be placed into a complete cutting, breaking, grinding, drilling processing system. Glassline doesn't not force you to pay for options that you don't require. You may pick and choose from an extensive list of options.

#### Cam Grinders

An older style of machine, not CNC, which uses a cam machined to the shape of the glass. The glass is rotated, and a pneumatically powered arm, with grinding spindle, follows the contour of the cam to grind the glass edge. A clamping mechanism is also included, as well as coolant collection.

## Glassrobots Oy



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### Company News

Glassrobots Oy

#### 07/07/2010 Glassrobots strongly in on the recovery

Started towards the end of challenging 2009, the slight recovery in the industry seems to continue in 2010. Some suspended projects start rolling again and early birds in the industry are getting prepared for the future by planning new investments. Glassrobots experienced and stream-lined organization is well prepared for the ongoing recovery and growth.



The third Glassrobots jumbo-sized flat tempering line RoboTemp™ FTM 320/640 was delivered to a European customer in June 2010 and the first delivery to open the path to the booming Egyptian market will take place in August; the new factory of Smart Glass Company will be one of the biggest architectural glass processing facilities in the region. Further, Guardian will install the 3rd Glassrobots tempering line in their Rexdale plant in Canada later this year.

On the automotive side, Glassrobots has supplied latest windscreen bending technology to JSC Avtooyina in Fergana City, Uzbekistan. With the TFA 3evolution™ bending furnace, the company is producing complicated windscreen types with high optics and shape accuracy.

At the glasstec 2010 glass and machinery show, Glassrobots will be in Hall 12,

stand F53. Book a meeting in advance or just drop in!

**Product Overview**

Glassrobots Oy

glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.02.09.04	Autoclaves

**Product Details**

Glassrobots Oy

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

**Glassrobots RoboTemp full convection tempering machine**

RoboTemp™ is recognized as the furnace that produces the best possible quality you can achieve – especially for soft coated low-E glass. It has the fastest heating and the highest capacity. With low-E glass, it achieves 29 seconds/mm of thickness. The system tempers clear low-iron glass for cover panels and active (coated) glass for PV-panels. Glassrobots has delivered the largest full convection flat tempering furnace in the world, handling maximum glass size of 3.2 m x 8 m. Glassrobots is continuing to look into the development of even larger furnaces. In fact furnaces are ready to take 3.3 m already. To date, Glassrobots has sold 25 RoboTemp™ machines. Glassrobots is convinced that quality has become an increasingly important competition factor for the glass market. High speed accuracy and even distribution of heating – especially convection heating – creates savings in operation and quality product.



glasstec.02.09.02.01 Laminated glass technology with foil for architectural glass

**Glassrobots Architectural Glass Bending Furnaces**

Glassrobots manufactures bending furnaces for production of many different types and sizes of curved architectural laminated safety glass, depending on capacity and application. The common features of these furnaces are the high bending accuracy and outstanding optical quality.



The basic furnace is usually semi-automatic. The operator chooses a heating profile and the temperature controller adjusts the heating automatically. The furnaces can also be fully automatic.

Glassrobots furnaces meet the requirements of the customer and are easy to operate and maintain. Glassrobots uses a modular design that allows future upgrades of the furnace to provide higher capacity.

- Glassrobots Double Chamber MBF for flexible production of architectural glass; demanding special bendings and mixed production - Glassrobots Multi Chamber LTF for long series of glass with same thickness - Glassrobots Dumbo DBF jumbo sized serial furnace allowing the bending of max. 3200 x 6000 mm glass. When producing smaller glass bends, the capacity can be doubled by dividing the furnace with a partition wall into two individual furnaces.

**Glassrobots Flat Laminating Line**

Glassrobots new generation high convection flat laminating lines offer the following innovative features:

- Equally suited for the production of stock or custom sizes.
- Batch processing for small lites to optimize the line capacity.
- Automatic measurement of laminate thickness, ensuring correct setting for press rollers and conveyor speed.
- Optional recording of humidity and temperature data in the clean room and storage room.
- Innovative solutions for laminating tempered glass and special glass in particular.



Glassrobots lines are designed to respond to the increasing demand for laminating cut to size tempered glass. Convection heating method brings effective results, regardless of whether the laminate is clear, coated or colored. The lines are flexible, reliable and easy to maintain and operate, with user-friendly graphic interface.

The increasing demand for a combination of flat tempered and flat laminated glass has made laminating lines for cut to size very popular. High quality tem-

pered glass is easy to laminate.

glasstec.02.09.02.02 Laminated glass technology with foil for automotive glass

### Glassrobots Bus Windscreen Bending Furnace LTFBA

Glassrobots large furnace for bending of bus and special vehicle windscreens, type LTFBA, represents the leading technology in the market. The furnace combines the flexibility of a versatile single chamber furnace and the efficient glass bending performance of a modern serial furnace.



The Glassrobots LTFBA furnace is equipped with the patented FuzzyBend control system for optimum bending result, vertically adjustable crease heating elements for efficient heat control, Windows-based graphic operator interface for user-friendly operation. The furnace's heating system is most advanced (5-part heating elements, 3-part extra heating elements, temperature balancing system, automatic central support) to secure the accuracy of the bending and the quality of end product.

The high quality end products meet all the requirements of international safety glass standards and those set by OEMs and ARG manufacturers in terms of optical quality, shape accuracy and repeatability.

### Glassrobots TFA3evo & TFA 4C windscreen bending furnace

The competent Glassrobots TFA3evolution FuzzyBend windscreen bending technology is designed for versatile production, both for long and short OEM and ARG production runs. Difficult shapes of modern car windscreens with sags upto 37 mm can be successfully bent into the TFA3evolution furnace.

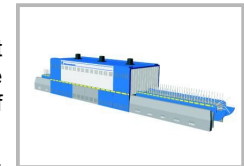


The excellent quality and dimensional accuracy of end product combined with high capacity, are based on enhanced bending program with the patented FuzzyBend control. A lateral exit system with automatic unloading saves time in loading. This can be combined with an automatic on-line cross curvature measuring with an on-line feedback to controls. The flexible modular design of the TFA3evolution furnace also allows extensions further down the track.

The new high capacity tunnel furnace TFA4C for OEM car windscreens completes the range.

### Glassrobots Vacuum Conveyor VAC

Shapes of new vehicle windscreen come more difficult to de-air by pressing units. Glassrobots solution is the Vacuum Conveyor VAC that is suited for production of long series of varying windscreen models.



Special features of Glassrobots vacuum conveyors are:

- A movable vacuum pump and superior distribution hose design gives an excellent vacuum also for higher capacities even if the vacuum rings are a little worn out or the fit is not perfect.
- Convective energy saving heating with an efficient air circulation guarantees an even heating of glass, also with painted black edges.
- The floor of the conveyor is placed high so that the returning part of the conveyor is not heated, yielding lower energy consumption and longer life for the vacuum distribution hose.
- The vacuum valves close automatically when the windscreen has gone through the conveyor.
- Glassrobots Vacuum Conveyor is suitable for different shapes and sizes of glass at the same time without adjustment.
- International standards with OEM-quality are guaranteed.

glasstec.02.09.04 Autoclaves

### Glassrobots Autoclave AC

Glassrobots Autoclave AC is a heavy cylindrical pressure vessel, made of welded steel, equipped with an interior heat insulating blanket, electric heating radiators, and air circulation system and water cooling radiators. The door structure incorporates a complex safety locking system operated by an electric motor or manually.



All necessary devices like exhaust and safety valves, pipework, process controls, recorders, panels etc. are included. The autoclave can be equipped with rails or a steel platform to serve as an extension of the floor level inside the machine.

An automated process cycle guarantees a high quality end product. In designing the autoclave, all safety operation aspects were given special consideration. A pressing system is required attached to the autoclave and is available on request.

In the glass laminating industry, the autoclave's duty is to perform the final bonding or adhesion of the glass and the polyvinylbutyl (PVB) interlayer, at the same time accomplishing complete transparency of the laminated glass, in varying thicknesses including burglar and bullet proof laminates.

## Glasstech, Inc.



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Stand	Hall 13, C55 (Page 640)

### Product Overview

Glasstech, Inc.

glasstec.02.04	Forming and bending technology
glasstec.02.07.01	Machines and equipment for the production of display glass
glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.03.04.02.02	Solar mirrors
glasstec.05.01.02.01	Surface, contour and imperfection measurement and control

### Product Details

Glasstech, Inc.

glasstec.02.04	Forming and bending technology
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#### CRB-S™ Cylindrical Radius Bender System for Solar Parabolic

The Glasstech CRB-S is a highly productive, very accurate and economical system capable of producing the shape conformity and quality demanded by the solar power industry. This tempering/heat strengthening/low-stress glass system

produces large (low-iron) glass for parabolic solar reflectors. The innovative, new CRB-S can produce bends up to 1651mm x 1700mm (65" x 67") and is precise enough to produce glass suitable for laminating.

#### NEW CRB-S™ Glass Shaping & Processing System Advantages

Innovation in parabolic trough glass production Based on 15+ years of proven core technology Glass strengthening and flexibility

Tempered – 4–5 times stronger than annealed glass Heat strengthened – 2 times stronger than annealed glass Low stress – Similar to annealed glass

Bending thickness from 1.6mm–5mm (0.63"–3/16") or thicker No tooling required Fully automated and computer-controlled Highly accurate part shapes meet industry requirements Significant energy savings over conventional methods

Precision, Repeatability, Energy Efficiency and High Volume = Lower Part Cost

#### Quick Sag and Deep Bend

Advanced Bending and Tempering Systems for Automotive Glass

Automotive glass produced on Glasstech's QS™ (Quick Sag) and DB™ (Deep Bend) Advanced Bending and Tempering Systems has freed designers to develop exciting new concepts. Glass from these systems has high optical quality, meets precise tolerances and is consistent, no matter how complex the shape.

## Glaston Tamglass, Glaston Uniglass



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## Product Overview

Glaston Tamglass, Glaston Uniglass

glasstec.01.10.01	Optimization of glass cutting and glass production yield
glasstec.01.10.03	Inspection systems
glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.03.01.03	Grinding techniques for formed glass
glasstec.02.03.05	Polishing technology
glasstec.02.04	Forming and bending technology
glasstec.02.07.01	Machines and equipment for the production of display glass
glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.02.09.04	Autoclaves
glasstec.02.11.01	Tools

glasstec.02.11.02	Replacement and spare parts
glasstec.04.02	Cutting, grinding and drilling tools
glasstec.04.03	Handling tools, hand-guided
glasstec.04.04	Replacement part, wearing parts
glasstec.05.01.01.01	Measurement and control of glass position detection
glasstec.05.01.01.02	Measurement and control of viscosity
glasstec.05.01.01.03	Measurement and control of radiation in the melt

## Product Details

Glaston Tamglass, Glaston Uniglass

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

### Tamglass product offering

Product offering covers all glass sizes and quality requirements for architectural glass industry. Tamglass flat tempering furnaces are in use in numerous glass processing companies world-wide. Also with the modern technologies offered under the Tamglass brand, new exciting shapes can be given to the safety glass surrounding us.



The widely respected continuous flat tempering machine family, the Tamglass CHF, has been enlarged by the new CHF Pro model. CHF Pro is especially developed for solar and architectural glass tempering where the highest quality of glass with high capacity and reliability are necessities.

Being almost 40 years involved with bending technology made it easy to develop an answer to increasing demand of curved solar glass. Combining the widest know-how in the market and latest technology Glaston developed an answer to the growing demand of the parabolic trough reflectors (CSP) solar power plants. The new ESU EcoPower shapes the reflectors meeting the extremely high accuracy of the focal point.

## GLASTRONIC GmbH

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### Product Overview

GLASTRONIC GmbH

glasstec.02.08.01	Complete plant for insulating glass production
glasstec.21.03	Special offers for architects

### Product Details

GLASTRONIC GmbH

glasstec.02.08.01	Complete plant for insulating glass production
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#### MGHP 1600/1800 FULL

Semi-Automatic Insulated Glass-Line With Roller Press

The MGHP 1600-1800 FULL is necessary for the production of insulated glass structures. The machine contains glass washing machine, frame loading station, assembling unit and roller press. Its control and operation is performed by a relay system. Washing unit is equipped with 4 soft-brushes and it has 3 separated washing rooms (pre-washing, washing, rinsing), 3 own water-circles and 1-2 ventilators built in under the drying section. The clean and dry glass sheet arrives to the frame loading station on a roller leading track.

At the arrival of this, the whole unit - moves back, according to the adjusted rate (~40-60 mm). The roller leading tracks are also lifting up and we can place the frame (with butyl) on the glass sheet with the help of vertical and horizontal-

positioners. After this we tilt the 2nd glass sheet outwards and push it to the assembling unit with the help of rollers. Arriving to the vertical sensor we sink the rollers with the foot pedal below the lower level of the glass and we start the assembling. The complete structure is transported, by pressing the foot -pedal to the end of the transporter line.

Main Features:

Electricity: 400V 50Hz

Total Power: 11 kW-16kW

Air Power: 6 bar 250L/min

Relay control of IG line

Open top washing section

Wet parts of washing machine, water tank, brush axis: Stainless and acid-proof steel

Number of soft brushes suitable for washing low-e glasses: 4

Adjustable washing speed: 0,1-6m

Water tanks, pumps and water filters: 3-3

Heated pre-washing section

Assembling part's positioners operation: automatic

Uploading of spacer frames supported by positioner made manually

Secondary glass handling: manually

Assembling unit: manual

Adjustable base pressure

Automatic, pressing by rollers

Capacity of IG-line depending on tending: ~100-300 units/8h

Minimal glass dimension: ~L300 x H100mm

Maximum glass dimension: ~L3000 x H1600/1800mm

Min.-max. glass thickness to be produced: 10-50mm

Additional extension: Tilting table

## Gläsner Sandstrahltechnik GmbH & Co. KG

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### Product Overview

Gläsner Sandstrahltechnik GmbH & Co. KG

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

### Product Details

Gläsner Sandstrahltechnik GmbH & Co. KG

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

### Strahlgebläse Junior 40

Das Modell JUNIOR 40 ist ein sehr handliches Gerät für verschiedene Verwendungsmöglichkeiten. Es arbeitet nach dem Saugsystem, bei dem das Strahlmittel im Düsenkopf von der Druckluft angesaugt wird (Injektorwirkung).

Das ausgeblasene Strahlmittel wird über das eingebaute Einlage-Rüttelsieb zur Wiederverwendung in den Sandbehälter gefüllt und der Strahldüse zugeführt.

Je nach der gewünschten Oberfläche können alle trockenen Strahlmittel verwendet werden, wie Schlacke-Strahlmittel, Glasperlen, Korund, Silizium, Glaskorn, Hartguss-Sand usw.

## GMC For Glass Industry

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### Product Overview

GMC For Glass Industry

glasstec.02.04 Forming and bending technology

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

glasstec.02.11.02 Replacement and spare parts

glasstec.02.11.03 Insulating C203materials

glasstec.04.04 Replacement part, wearing parts

glasstec.05.01.01.05 Measurement and control of glass temperature

glasstec.05.01.05 Control and automation technology

glasstec.05.03.04 Process control systems

glasstec.06 Contracting, consulting, engineering, services



**Product Details**

GMC For Glass Industry

glasstec.02.04 Forming and bending technology

**Consumables / GMC Products OPB**

Bending & tempering Equipment press section rollers  
 (for rings eventually)



glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

**GMC Cord E.glass fiber**

Consumables / GMC Cord E.glass fiber

Flat Tempering equipment rollers in between furnace and  
 quench



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**Product Overview**

GPInnovation GmbH

glasstec.02.04 Forming and bending technology

**Product Details**

GPInnovation GmbH

glasstec.02.04 Forming and bending technology

**Automotive**

Complex glass shapes - manufactured with TSM technology

Automotive parts Components for the production of OEMs

**Electronics**

New product designs with TSM 3-D-Casings A high quality, premium material  
 „Cool“ Touch „Green“

**Medical**

Technical medical equipment - manufactured with TSM technology Casings and  
 components for technical medical equipment Protective glass layers for medical  
 sensors Complex shapes Tight tolerances

**Micro-Electro-Mechanical Systems**

TSM-structured glass wafer for 0-level packaging

(wafer level packaging) of MEMS sensors. Customer specific shapes and struc-  
 tures Up to 8" in diameter Structure sizes as small as 80 µm Smallest tolerances  
 available Applicable for most common glass types

**Organic Light Emitting Diode (OLED)**

Hermetic glass encapsulations of OLEDs Transparent Complex shapes High  
 solidity

## Grace GmbH & Co. KG

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E-Mail	
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### Product Overview

Grace GmbH & Co. KG

glasstec.02.11.08.01 Chemical drying equipment

### Product Details

Grace GmbH & Co. KG

glasstec.02.11.08.01 Chemical drying equipment

### Our product

Grace Construction Products offers a wide range of innovative specialty construction chemicals and materials that includes: concrete admixtures and fibers, products for architectural concrete, liquid pigments for colored concrete, cement processing additives, concrete masonry products, air and vapor barriers, roofing underlayments, self-adhered window, door and deck flashings, structural water-proofing systems and fire protection produc

## Grafotec Spray Systems GmbH



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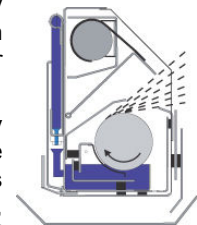
### Company News

Grafotec Spray Systems GmbH

#### 05/26/2010 Liquid corrosion protection for the glass industry

The Liquid Application System LA 1000 from Grafotec Spray Systems GmbH provides for a uniform corrosion protection of float glass. The Bavarian company is the only vendor worldwide to offer such a nozzleless process.

The protection against glass corrosion is an important quality aspect in the glass industry. The addition of aluminum oxide or zirconium oxide during the production efficiently reduces the glasses' proneness to corrosion. This process, however, is very expensive. An alternative is the application of liquid corrosion protection prior to the further processing of glass.



Nozzleless application of corrosion protection To this end the Grafotec has conceived its Liquid Application System LA 1000, which allows for a nozzleless application of liquid corrosion protection. With approx. 6000 turns per minute, its special rotor principle with integrated high-speed roller produces a spray mist, which is applied to the glass surface through an adjustable opening. This creates a highly uniform film of corrosion protection.

Managing director Reinhold Senft explains: "Nozzle systems are prone to de-

posits; if individual nozzles get blocked or fail, this changes the complete spray result – up to the formation of lines without corrosion protection. With our nozzle-less process this won't happen". Another benefit of the LA 1000 is its application width. Here again, the Grafotec Spray Systems GmbH demonstrates its flexibility: "Our Liquid Application system offers an application width of up to 5700 mm. Also tailored solutions from 6 meters on are possible thanks to its modular construction", explains Reinhold Senft.

The control system integrated into Grafotec's LA 1000 allows for a fine adjustment of the application solution and thickness up to a few percents and/or micrometers, and thus provides for a constant high quality standard. But the system does not only control the repeatability of the application volume – through the automatic adjustment to the glass width and track speed it also saves corrosion protection solution. A special reverse osmosis device guarantees the required quality of the process water. Its standard enclosure ensures a clean and trouble-free workplace and simultaneously complies with all applicable safety regulations.

Not only for corrosion protection The LA 1000 is not only restricted to the application of liquid corrosion protection. Reinhold Senft explains: "Our internal test procedures demonstrated that also other current liquids or suspensions can be applied to different flat materials".

For more than 25 years, Grafotec Spray Systems GmbH has been a world-leading manufacturer of separator application systems for the protection of flat, float and auto glass. Its flexible machine constructions and the process safety of its equipment boosted the Bavarian company to become a global first point of contact. At the end of 2007 the company extended its portfolio by a special car glass applicator, which allows for the coating of windscreens prior to gravity bending. With its special powder application system AP 510 SOLAR the company has placed an additional focus on the solar sector since the end 2009.

**05/26/2010 AP 550 – the introductory model among separating agent application systems**

In the shape of the introductory model AP 550 from its well-known AP series, the Bavarian company Grafotec Spray Systems GmbH is once again demonstrating flexibility and innovative potential in the field of separating agent application in the glass industry.

Highly specialised production lines in the float glass and flat glass sector usually require neither special functions nor special productions for protection of their glass. These devices



are however rare and usually result in an impasse in the development of an existing production line. Grafotec Spray Systems GmbH is showing an innovative way out in the form of its new AP system.

Simple construction with tried and trusted quality The powder application device of the new AP system is optimised in its delivery condition for basic protection of float glass and flat glass and can be readily integrated in existing production lines – also owing to the space-saving design. Its interior workings consist of the customary user-friendly control electronics. Its metering unit is identical to that of the AP series. The patented nozzle system is also structurally identical to the tried and trusted series and allows application of all common commercially available separating agents in powder form for the float glass and flat glass field. Unlike its big brothers, the AP 550 is limited to a nozzle beam with a maximum of 24 nozzles and a maximum width of 4200 millimetres and is supplied with only one metering unit module with a 15-litre powder reservoir.

Flexibly adaptable owing to modular construction As with all AP systems from Grafotec Spray Systems GmbH, the introductory model AP 550 can be adapted to the specific requirements of the production line. Extension of the control electronics, housing or an aspiration unit is also possible with the AP 550. "Our introductory model is not limited to one functionality", the managing director Reinhold Senft emphasises. "It can be adapted to customers' wishes – also without exchanging the entire unit – in the same manner as in a modular system. The AP 550 is therefore by no means an impasse. Instead, it offers our customers a financially acceptable and high quality introduction to the protection of float glass and flat glass".

At an introductory price of approx. 19,500 EUR, the AP 550 has been delivered internationally since the beginning of January. Further information about the AP 550 and all other systems from Grafotec Spray Systems GmbH can be found at: [www.grafotec.com](http://www.grafotec.com)

**05/26/2010 AP 510 SOLAR – the new generation of application systems "made in Bavaria"**

Production lines for the manufacture of solar glass are not liable to permanent ongoing changes of requirements. Width of glass, separator and separator dosing do not change frequently – as it is usual for common production lines. Separator application systems for the production of solar glass often are equipped with technical features, which rarely are necessary for conventional glass productions. The changeover costs or the costs for an individual adaption often are in the same manner as the machine's original purchase price.



Reduce investment costs and preserve resources With its new AP 510 SOLAR Grafotec Spray Systems GmbH is introducing a trendsetting solution. For more than 25 years the Bavarian company is known for the high quality and reliability of its separator application systems. All Grafotec systems blend perfectly into every existing flat, float or car glass production lines and are qualified for the application of a wide spectrum of separators. The long lasting know-how and the appreciation for customer requests prompted Grafotec Spray Systems GmbH to do an up-to-date new product design with the focus on reduction of investment costs and savings of resources.

Optimized for solar glass coating AP 510 SOLAR is the consistent further development of Grafotec's AP systems. Robust, reliable and process-stable: the AP 510 SOLAR system stands for an almost maintenance-free uninterrupted permanent operation in every solar glass production line. With an application width up to 2,500 millimeters and up to eight patent-registered spray nozzles the application of all conventional, powdery separators for solar glass production is permitted. The especially designed microprocessor control in combination with the well-known injection and distributor modules of the AP 900 series enable high repetition accuracy and ultimate precise separator dosing. Due to the established easy to handle control system glass widths and the number of spray nozzles of the AP 510 SOLAR system can be customized to every production line. Areas off the glass sheets are consequently left open. Thus AP 510 SOLAR provides for consistent powder application as well as savings of separator. In addition its Low Pressure System arranges for a clean working environment avoiding the "rebound effect".

Groundbreaking, modular, and cost-effective On delivery AP 510 SOLAR is tailored to the particular needs of solar glass production and is available at a basic price of approx. EUR 15,000,-. As every Grafotec AP system AP 510 SOLAR is structured modularly and easily and cost-effectively is matched to changing production preconditions. Application module enclosure or DustExtraction are only two of numerous extensions, which Grafotec provides for the AP 510 SOLAR. To find the appropriate extension system contact the professional Grafotec Spray Systems consulting team.

**08/11/2010 Grafotec Spray Systems GmbH is presenting itself at the glasstec 2010 in Düsseldorf**

Diedorf, August 2010 – between 28th September and 1st October 2010, the glass sector's most important leading trade fair will be taking place in the form of the glasstec. Grafotec Spray Systems GmbH, the foremost manufacturer of separating agent application systems, will also be appearing this year with pioneering products.



Just as in Cairo and Singapore already, Grafotec will be providing information in Düsseldorf about the latest developments in separating agent application. Topics such as low investment costs, a clean working environment and dealing responsibility with resources will occupy a forefront position. The glasstec 2010 is therefore an important trade fair for the new generation of separating agent application systems "Made in Bavaria".

Grafotec will therefore be exhibiting a modular system with the new series AP 550 and 510 which has been tailored to the requirements of specialised production lines in the float glass and flat glass area – such as in solar glass production for example. The new generation of application systems possesses the basic functions for uniform powder application and consequently makes it possible to reduce investment costs. The reduction in the running costs is brought about by the special application process that saves up to 30% in separating agents.

With the LA 1000, the Bavarian manufacturer displays that it also has the right answer to questions about the topic of "Corrosion Protection for Glass". Grafotec has developed a roller system specifically for liquid corrosion protection that applies an even film to the glass surface by atomised spray. The company is the only supplier in the world to rely on a jetless application process.

The Managing Director, Reinhold Senft, awaits interesting trade fair days. "With the glasstec, a successful trade fair year is coming to an end in Düsseldorf. I am looking forward to the international professional public and discussion of specific problem solutions – and very especially to new contacts".

From Sept 28– Oct 1, 2010 we present our product line at the 20th glasstec in Düsseldorf. You will find us in Hall 15, Stand D41. Further information about the company and its products can be found at [www.grafotec.com](http://www.grafotec.com)

**05/26/2010 Redundant separating agent application system from Grafotec**

Grafotec Spray Systems GmbH, the leading manufacturer of separating agent application systems for protection of float glass and flat glass, is ensuring additional product safety. Hence, a production line stoppage is avoided by simultaneous use of two AP 550 systems.



The equipment of the AP 550 entry-level model from Grafotec Spray Systems GmbH is specifically tailored to the float and flat glass industry. Owing to its modular construction, it allows simple and economically priced extensions at any time. Grafotec has now provided proof of this major flexibility in Egypt.

The Bavarian manufacturer developed at the customer's request a redundant unit that prevents overall failure of the production line. Two AP 550 systems are employed independently from one another in this case, which take over the duties of the other in case of malfunction or maintenance. "What is special about the entire unit is the completely uninterrupted switchover between the individual devices", the managing director, Reinhold Senft, explains. A programmable logic controller (PLC) takes charge of this special task. It sends messages to the central control point and was specifically developed for this unit.

The redundant unit also offers further advantages. Whether 60/40 per cent or 50/50 per cent run duration is involved: the running times of both devices can also be controlled manually and their maintenance intervals can be adapted to process sequences within the company.

Proof of innovative thinking "With the redundant system, we have once again been able to prove the flexibility of our systems", according to Reinhold Senft, who emphasises: "our entire units are modularly constructed and can be assembled to form new units, like a construction kit". It is precisely the individual adaptation to specific requirements on a production line that is of major importance for the Bavarian company. Consequently, Grafotec expanded the staff of its technical department in January 2010. "We wish to be able to react even more specifically and rapidly to such requests in the future".

The innovative interaction between tried and trusted units and new configurations will also continue to be the main focus of Grafotec Spray Systems GmbH. This wealth of experience not only offers Grafotec's customers maximum product safety, but also advantages in terms of finance and time.

**Product Overview**

Grafotec Spray Systems GmbH

glasstec.01.10.05	Separator applying machines
glasstec.02.11.08.05	Chemical protection material for glass
glasstec.02.11.08.07	Other chemicals
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)

**Product Details**

Grafotec Spray Systems GmbH

glasstec.02.11.08.07 Other chemicals

**StainRetard®101/102 liquid**

Stainretard 101/102 is a liquid product specifically developed for the flat glass industry to prevent glass corrosion (staining). Even though flat glass is a most durable material used in the construction and fabricating industries, glass staining has been a challenging problem for flat glass manufacturers. For years, glass scientists have known that moisture reacts with flat glass. While this reaction is slow it can present a serious problem to glass manufacturers and fabricators.

Whenever water is allowed to remain on the surface of flat glass, unique chemical reactions can occur resulting in corrosion damage (glass staining). The water leaches alkaline materials from the glass surface resulting in an alkaline solution and increase in pH.

If allowed to remain on the glass surface, the alkaline solution reacts with the silicate network resulting in permanent damage (staining). As long as the amount of water is large (compared to the glass surface area), the concentration of the alkaline solution is weak and the pH increase is minimal. There is no reaction with the silicate network and the glass does not corrode. However, when the amount of water on the glass surface is small, the concentration of the alkaline solution increases, resulting in higher pH and eventually glass corrosion. The latter situation is often present in packaged glass, where the adjacent pieces of glass can have a very small amount of condensed moisture trapped between them. Since this trapped moisture is spread over a large area, we have a situation of small volume and large surface area. The alkali leached from the glass

surface results in a very high pH solution, which reacts with the silica network resulting in permanent stain.

If we can prevent such moisture condensation between the adjacent pieces of packaged glass, the glass will not stain and can be stored for a long time. However, this is not possible in the case of storage of packaged crates of glass.

For more than three decades, flat glass manufacturers have used a powdered, acidic glass separator material for packaging glass. This acidic separator prevents an increase in the pH of the leached alkaline solution thus providing stain protection. However, for it to be effective it has to be applied very uniformly and evenly. This has often presented a serious problem caused by clogging of the applicators resulting in uneven and streaky application. A better approach is to spray-coat the glass with a specially formulated acidic solution for stain protection.

## Grenzebach Maschinenbau GmbH



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### Company News

Grenzebach Maschinenbau GmbH

**08/22/2010 Grenzebach – the family owned company welcomes you at glasstec in Hall 15 B42 with the following exhibition focuses**

Grenzebach – the family owned company welcomes you at glasstec in Hall 15

B42 with the following exhibition focuses.

Discovering. Developing. Driving. Grenzebach goes 3D. Grenzebach is proud to present a 3D film in their own cinema. Defect detection system for the endless glass ribbon of float glass processing lines. This allows Grenzebach to undertake the entire quality assurance in a float glass processing plant. System for eliminating ultra short reject sheets from a float glass processing line. This option particularly satisfies the needs of float glass plants mainly producing jumbo and medium sizes. They can now rigorously minimize glass loss by eliminating 200 mm long reject sheets to cullet instead of the traditional 600 mm long reject sheets. Ultrasonic welding of junction boxes and holders to solar modules as well as welding holders for facade copings and fittings. What seemed to be out of reach so far can now be done. Grenzebach developed a process for permanently bonding glass and metal without any adhesive. Edge decoating laser for thin-film solar modules. Grenzebach proudly present a novel, vertical edge decoating laser. This laser system allows to decoat all usual thin-film modules and to effectively extract the removed particles. Non-contact flat glass and solar module gripper system: A novel gripper system for picking the glass from its coated face without touching or damaging the coating. An air stream, generated with ultrasound, sucks the glass and simultaneously builds up an air cushion that prevents the gripper from touching the glass. Handling and accumulator technology for flat glass and thin-film solar lines with optional clean room capability.

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**07/27/2010**

**50 years Grenzebach Maschinenbau GmbH**

Staff representatives from all over the world hosted in Hamlar

Grenzebach Maschinenbau GmbH, the founding company of the Grenzebach Group, celebrated their 50-year jubilee on July 9 when all members of staff were invited to join the festivities in Hamlar.



In his address under the theme „Grenzebach: yesterday – today – tomorrow“ CEO Bernd Minning depicted the impressive development history of the former craftsman business that started off with just 7 employees in 1960. Today the Grenzebach group is a global player with a workforce of 1500 spread over manufacturing locations in the three key currency regions (dollar and euro as well as the Asian market) and with a worldwide network of sales and service agencies.

Grenzebach's product portfolio is clearly structured ,starting with the core business "glass" with equipment for basic glass, TFT glass and solar panel manufacturers., The group's second major field of activity is the "building materials"

business supplying manufacturing lines for makers of gypsum plaster board and insulation materials.. The "General Industry" sector focuses on intralogistics, on airport baggage handling and on the automotive industry. Grenzebach provide equipment for all of these businesses, including a wraparound service package: from a basic screw to a spare parts kit as well as full-scale maintenance services with up-to-the-minute software updates.

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There are four mainstays which reflect the Grenzebach philosophy: Grenzebach serve strongly growing markets with a strong emphasis on automation and innovation. In all this Grenzebach excel in: • innovative technology and process know how, • short implementation times, • top quality and high reliability, • and – most importantly – highly skilled and extremely motivated staff.

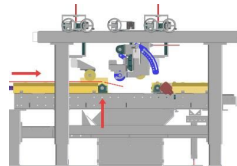
This emphasis on internationality and professionalism does not deflect the Grenzebach family or the group companies from a strong commitment to social activities – especially in fostering schools and development of young people.

Hamlar, July 2010

#### 08/18/2010 Grenzebach - Cutting Process Optimization in Float Glass Lines

##### Cutting Process Optimization in Float Glass Lines

Grenzebach is a longstanding supplier and development partner to glass manufacturers in need of process equipment, automation technology, specialized cutting and handling systems as well as entire manufacturing lines and cold end equipment. Grenzebach also engineers process technology and manufacturing equipment for the photovoltaic and solar thermal industries.



For flat glass makers job-specific optimization and cutting plays a key role in managing the cold end of a glass processing line. In fact, this high art of optimization directly affects the achievable peak glass yield.

A novel technical achievement (patent pending) strikes a new path to a significant yield increase in the float glass production business.

The assessment and qualification of non-conformities in the glass ribbon inevitably forces glass makers to score strips of faulty glass for elimination as cullet. So far the shortest possible "cullet sheet" measured some 600 mm as determined by the roller spacing of the downstream conveyors directing this cul-

let sheet to the next available drop and elimination section.

This minimum sheet length, seen over the full ribbon width, frequently embodied an avoidable glass loss especially when the particular glass defect situation would allow a shorter cullet sheet.

The Grenzebach innovation now allows to reduce this 600 mm sheet to a mere cullet strip of up to 170 mm and, subject to the detected defects, to minimize the glass loss by up to 70 %.

Traditionally, the snapping station snaps the scored sheets with the main snapping roller. The snapping station raises this pneumatically actuated or motor-driven roller pinpointed on the score passing the roller crest. In interaction with the press roll assembly over the conveyor the glass snaps in a controlled way due to flexure, sectioning the endless ribbon into individual sheets.

Depending on the job requirements, these sheets then directly go to the stackers as jumbo sheets or are further cut up to smaller sized sheets. Faulty glass is traditionally snapped and conveyed to the next available cullet elimination point in the very same way. However, the conventional float line roller spacing requires a minimum 600 mm sheet for this. The now developed new snapping station provides a moveable roller section that can open and close within a very short time to create a discharge opening. This elimination sequence is initiated by the Grenzebach PPC optimization system and is then materialized by the conveyor line control system. The new snapping station can now snap and directly eliminate a scheduled short cullet sheet through the roller segment opening. After cullet strip elimination the conveyor rollers return to their original position and resume their function as standard conveyor rollers for subsequent production. The newly developed snapping station design also reflects numerous customer demands. The top pressure roll assembly is now, for example, driven by servomotors and allows manifold roller position settings (leading or trailing offset or accurate positioning over the glass ribbon). A novelty is the likewise integrated upper snap roll. If necessary, this extra snap roll can snap the cullet strip with a linear down-movement in a specific and adjustable angle of attack. This new feature is to further improve the snapping results in particular situations such as for thicker glass.

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The newly developed snapping station is already employed on running projects and will soon prove its yield increasing capacities.

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Picture captions:

The Picture shows the new reduced-length cullet strip snapping and on the spot elimination through the snapping station discharge opening.

### Product Overview

Grenzebach Maschinenbau GmbH

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glasstec.01.10.06	Stacking machines
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glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.05.01	Laser-isolating technology
glasstec.02.06.01	Vacuum coating equipment
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glasstec.05.01.01.04	Measurement and control of glass thickness

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glasstec.05.01.02.01	Surface, contour and imperfection measurement and control
glasstec.05.02.01	MRP machine and transport adjustment
glasstec.05.02.02	CNC control for handling machines
glasstec.21.01	glass technology live

### Product Details

Grenzebach Maschinenbau GmbH

glasstec.02.01.01.01	Cutting technology for float glass
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#### Schneidtechnik

Die Schneidtechnik gilt seit jeher als das Herzstück am Kalten Ende einer Floatlinie. Ob Längsschneider mit manuell verstellbaren Schneidwerkzeugen oder vollautomatische Längsschneidtechnik mit bis zu 16 Schneidwerkzeugen an einer Brücke - Grenzebach deckt das komplette Spektrum ab.

In den vergangenen Jahren wurde die Querschneidtechnik entscheidend verbessert. Eine neue Steuerungsgeneration in Verbindung mit hoch dynamischen Antrieben ermöglicht eine bisher nicht erreichte Schneidgenauigkeit und Linearität des Schnitts.

Entscheidend für die ausgezeichnete Schnittqualität ist der Schneidkopf mit dem bewährten elektromagnetischen System zur Erzeugung der Schneidkraft. Das Schneidrad wird punktgenau und gleichzeitig sanft ein- und ausgesetzt. Ein Känguruh-Effekt wie beim pneumatischen System wird vermieden, die Schneidkraft ist präzise dosierbar und konstant über den gesamten Schnittverlauf - sogar bis 250 N für Dickglas.



## Grenzebach Maschinenbau GmbH



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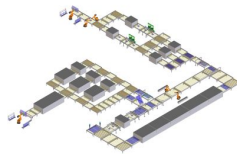
### Company News

Grenzebach Maschinenbau GmbH

#### 08/16/2010 VIG - a window with wall insulation properties !

##### VIG - a window with wall insulation properties !

Insulating glass windows by double-glazing, bonding two glass panes with a gas-filled spacing, has been a success story for the last 50 years. However, in 2012 the new European Energy Saving Regulation EnEV 2012 will come into force, demanding thermal insulation values which traditional double glazing will be unable to achieve. Not only our own regional authorities, but also the US Government, have approved regulations which will herald the end of double glazing units, as we know them, by 2013.



As a solution, window makers already offer the familiar triple pane window which can reduce energy loss below the new limit values. However, such heavy-weight insulating glass panes with a thickness exceeding 3 cm over-complicate window installation and place high demands on window frames and window fittings. Moreover, they add considerable weight to glass facades and are often a determining factor as to the viability of retrofitting existing buildings, for example.

The use of krypton gas filling offers some improvement in triple pane design .

However, cost and environmental considerations make this impracticable on a large scale. The metal coating on the inner glass side, limiting thermal radiation to the outside or solar irradiation to the inside, are only justified for cost optimization purposes. At best, this window pane can produce a U-value (formerly K-value) of about 0.6, i.e. each square meter window surface just loses 0.6 watt per degree K of inside/outside temperature difference. This is a good result but still represents twice the value of an insulated exterior wall.

There is a better, visionary solution - VIG! This vacuum-insulated glass does not require an insulating gas between the inner and outer pane, but relies on a void - in reality - a vacuum. To prevent the atmospheric pressure from squeezing the 2 panes together, barely visible tiny spacers are placed in between. These new window pane structures can theoretically achieve U-values of 0.2 and as such match the efficiency of an excellently insulated exterior wall !

Considering that the vacuum requires just a few tenths of a millimeter spacing between the panes, the slim VIG window is not half as thick and is overall lighter and more stable than current double or triple pane glazing. The two panes, squeezed under atmospheric pressure, and the spacers constitute a composite structure making a glass pane thickness of just 2 mm possible, whilst achieving the stability and sound insulation values of 4 mm glass.

The use of the thermos flask principle for windows is not a new idea, the first VIG patent in Germany being granted in 1906. Since then, numerous attempts have been made, world-wide to bond both panes in a way that, on the one hand, allows a high 10-4 mbar inner vacuum to be maintained over a span of 20 years or more, and, on the other hand, ensuring that the strain generated between the inner and outer pane does not result in glass breakage. A few successful solutions have merely satisfied a niche market as a substitute for single-glazed small windows in Asian housings. The demanding requirements of Western world markets however, have not been met - until now.

In 2004 Grenzebach, an engineering company with headquarters in Asbach-Bäumenheim (Hamlar), in the Donau-Ries region of Bavaria, sponsored by the Department of Trade and Industry (BMW) and assisted by the Project Management Organisation Jülich (PTJ), initiated a new approach to this market demand and launched the ProVIG research project (#0327419). Grenzebach, already an established manufacturer of glass processing equipment, gathered around some suppliers, an insulating glass manufacturer and a window maker, and completed the project team with several Fraunhofer Institute affiliates and the ZAE Bayern (Bavarian Center for Applied Energy Research).

Bonding two glass sheets vacuum tight, not too rigidly while allowing durable flexibility, was a real challenge. New materials had to be developed and new processing methods invented. Several thousands of tiny spacers had to be placed

and accurately positioned between the two panes. Next, a vacuum needed to be generated in the inner spacing. This vacuum had to remain free of any contamination or moisture even after 20 years, requiring a vacuum with a maximum of one millionth molecules in the air.

Grenzebach now have a demonstration line in operation for panes measuring about 1 m x 1 m. The experience gained is already projected into full scale industrial production with an annual capacity of 400,000 VIG. The aim is to offer a VIG production line manufacturing panes of any desired size and able to withstand demanding inspection cycles and tests. It must also be marketable at a fair market price.

The first 8.5 mm slim panes have an initial U-value of 0.5 and excellent noise absorbing properties. The spacers are so inconspicuous that at 1 m distance they are only visible in a freshly cleaned window when they are pointed out. The next generation with a mere overall thickness of 6.5 mm and still better R values is already in process ...

'Glass-technology-live' is a special show during glasstec 2010, in Düsseldorf, it is an excellent stage on which to showcase the first VIG results in September 2010. Product and process details will be presented in a gtl series of presentations on 29 September in the afternoon. Throughout the period of the trade fair the special 'Glass-technology-live' show will serve as platform for our VIG exhibits and demonstrate how our windows will look in a few years from now. VIG window panes made of float glass and of tempered single-layer safety glass, measuring 1 m x 1 m, and even 1800 mm high VIG will be exhibited along with the new VIG ISO window pane. This combined dual-pane glazing consists of a VIG and of a coated float glass pane. Achieving a U-value of 0.3 it is a world-beater in solar protection for such composite structures. Its R values already match those of an insulated exterior wall !

More and more window makers and architects world wide are asking the question: When can we buy this VIG ? This demand redoubles the determination of the project team. Whereas inventors prefer step by step functionality optimization in a small scale line, Grenzebach insulation glass customers are impatient for short-term annual production capacities producing millions of VIG sheets. This incentive has encouraged further co-operation between Grenzebach and its partners with the aim of starting up, in a joint effort, such VIG production lines by 2012.

It will be interesting to see if an equally visionary innovation will be introduced during 'glasstec 2012'!

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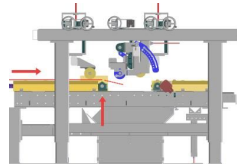
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glasstec.21.01	glass technology live

#### Grünig-Interscreen AG

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E-Mail	mail@grunig.ch
Stand	Hall 12, C47 (Page 636)

**Product Overview**

Grünig-Interscreen AG

glasstec.02.03.07 Water treatment for grinding technology

glasstec.02.03.08.01.01 Screen printing techniques

glasstec.02.03.08.01.02 Screen washing machine

glasstec.02.03.08.01.03 Plants for screen de-laminating

glasstec.02.03.08.01.04 Other screen printing machines

glasstec.02.06.02 Enamel glass machines, screen printers, thermal pressure equipment

glasstec.02.10.01 Washing machines and equipment

**Product Details**

Grünig-Interscreen AG

glasstec.02.03.07 Water treatment for grinding technology

**G-WASH-System**

Mit dem G-WASH-System haben Sie das Reinigen von Abwasser, Lösemittel und Chemikalien im Griff und sparen Kosten. Einfache G-WASH Reinigungsergebnisse für die IN-HOUSE Reinigung von Wasser, Lösemittel und Chemikalien.

glasstec.02.03.08.01.02 Screen washing machine

**G 104**

Automatic screen cleaning machine - Maximum frame format of 1500 x 1400 mm - "PLUG & WASH" construction method - Unpack, set up, fill, wash - Compact, low-maintenance and user-friendly concept - Top quality at an extremely competitive price, with low operating expenses - Automatic process with programmable washing time - Guaranteed work safety thanks to the closed washing chamber - V2A special nozzles designed for ease of maintenance, with service cover - For solvents with a flashing point of >55°C



glasstec.02.03.08.01.03 Plants for screen de-laminating

**G-WASH 112 Decoating Machine**

o One concept - 3 standard sizes: Automatic decoating & degreasing o "PLUG & STRIP" construction method: Unpack, set up, fill, start the process o Guaranteed work safety thanks to the closed construction made of stainless steel V2A o Internal Recycle and fresh water buffer tank o Top quality at an extremely competitive price, with low operating expenses o Grünig special nozzle, easy to maintain o Touch-Screen terminal, 50 open programs o Low-maintenance and user-friendly concept



glasstec.02.03.08.01.04 Other screen printing machines

**G 202**

Single pneumatic Duplex clamp - A cost-efficient first step into professional stretching - Modular extension possible in 250 mm increments p/side - Pneumatic stretching with highest precision/reproducibility - Pneumatic two-circuit control panel - Automatic prestressing of the screen frames - Simple adjustment of the frame profile height - DUPLEX stretching clamps offering max.retention force - Appropriate for all the meshes customary in trade



## GSS German Spacer Solutions GmbH

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E-Mail	info@germanspacer.de
Stand	Hall 17, C61 (Page 656)

### Product Overview

GSS German Spacer Solutions GmbH

glasstec.02.11.05 Spacers

### Product Details

GSS German Spacer Solutions GmbH

glasstec.02.11.05 Spacers

### Flexibler Abstandshalter für die IG-Produktion

#### Konstruktion

Silikonschaumprofil mit eingebettetem Zeolith, seitlichem Montageklebstoff und verbundener Edelstahlfolie, die als Wasserdampfsperre dient und einen Gasverlust des IG-Systems zuverlässig verhindert.

#### Anwendbarkeit

Das Produkt GSS-Flex ist sowohl kompatibel mit Applikatoren für die automatische und halbautomatische IG-Produktion als auch für Hand-Applikatoren.

#### Vorteile

Unsere Produkte haben sehr niedrige Psi-Werte. Die Wasserdampf-Gassperre ist durch den Einsatz von Edelstahl extrem hoch, das Produkt entspricht EN1279-2 und EN1279-3. Im Vergleich zu handelsüblichen Abstandshaltern ist die Wasserdampfaufnahmekapazität fast 3 mal höher. Die flexible Konstruktion ermöglicht

eine vollständige Automatisierung der Produktion. Es ist weder eine Biege- noch eine Molekularsiebfüllanlage erforderlich.

## GTA - Glastechnik-Anlagenbau GmbH

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E-Mail	info@gta-gmbh.de
Stand	Hall 15, A51 (Page 648)

### Product Overview

GTA - Glastechnik-Anlagenbau GmbH

glasstec.02.10.01 Washing machines and equipment

### Product Details

GTA - Glastechnik-Anlagenbau GmbH

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### Horizontale Glasreinigungsmaschine

GTA-Glasplatten-Reinigungsmaschinen in horizontaler Bauweise, standardmäßig mit verzinkten Maschinengestell. Sämtliche Teile im Nassbereich sind aus korrosionsfestem Material. Stufenlos regelbarer Antrieb, Transportrollen kunststoffbeschichtet mit speziellen schnitt- und abriebfesten Gummibezügen, höhenverstellbares Maschinenoberteil bis 500 mm, digitale Anzeige, Bürsten einzeln angetrieben, getrennte Wasserkreisläufe, Wasserumwälzwanne herausziehbar, beheizt, Edelstahlpumpe.

Arbeitsbreiten: 400 mm bis 3300 mm

Glasdicken: 0,1 mm bis 50 mm

Durchlaufgeschwindigkeit: bis 30 m/min

### vertikale Glasreinigungsmaschine

GTA-Glasplatten-Reinigungsmaschinen in vertikaler Bauweise, standardmäßig mit verzinktem Maschinengestell. Sämtliche Teile im Nassbereich sind aus korrosionsfestem Material. Stufenlos regelbarer Antrieb, Transportrollen kunststoffbeschichtet mit speziellen schnitt- und abriebfesten Gummibezügen, höhenverstellbares Maschinenoberteil bis 450 mm, digitale Anzeige, Bürsten einzeln angetrieben, getrennte Wasserkreisläufe, Wasserumwälzwanne herausziehbar, beheizt, Edelstahlpumpe.

Arbeitsbreiten: 1600 mm bis 3300 mm

Glasdicken: 2 mm bis 20 mm

Durchlaufgeschwindigkeit: bis 10 m/min

## Guangdong Enkong Machinery Co., Ltd.

Address	Xinda Industrial Area, Lunjiao Street, 528308 Foshan City, Guangdong Province China (Rep.)
Phone	+86 757 27756688
Fax	+86 757 28636022
Internet address	www.enkong.com
E-Mail	hyh@enkong.com
Stand	Hall 12, A30 (Page 636)

### Product Overview

Guangdong Enkong Machinery Co., Ltd.

glasstec.02.03.01.01 Grinding techniques for straight edges

### Product Details

Guangdong Enkong Machinery Co., Ltd.

glasstec.02.03.01.01 Grinding techniques for straight edges

### glass straight-line edger

The 4-spindle ZM4 suitable for processing straight-line edge & 45° arrises of glass sheet with various size and thickness. Rough grinding, fine grinding of flat edge and rough grinding of arris can be finished at one time. The same thickness of flat glass can be continuously processing.



## Guangdong Fushan Glass Machinery Co., Ltd.



Address	Anle Industrial Zone 528425 Dongfeng Town, Zhongshan City, Guangdong China (Rep.)
Phone	+86 760 22610338
Fax	+86 760 22610328
Internet address	www.fushan.cn
E-Mail	sales@fushan.cn
Stand	Hall 12, D39 (Page 636)

### Product Overview

Guangdong Fushan Glass Machinery Co., Ltd.

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass

### Product Details

Guangdong Fushan Glass Machinery Co., Ltd.

glasstec.02.01.01.01 Cutting technology for float glass

#### FHT3727

Straight and shape cutting line for flat glass with CNC control, which has several input modes and optimization. It is a multi-function cutting table with loading, cutting, breaking in the same table.

glasstec.02.02 Drilling technology

#### FLZ25S

This machine is a special equipment for glass vertical drilling, PLC control, servo-motor driving, suitable to drill installation holes in big size glass having correct hole position with high quality. It is really super equipment for the drilling of building glass and other big side glass.

### Guangdong IVACO Glass Technology Co., Ltd.



Address	Qinbu Industrial Park, Xinhua Town, 510800 Guangzhou City, Guangdong China (Rep.)
Phone	+86 20 36851987
Fax	+86 20 36851989
Internet address	www.chinaivaco.com
E-Mail	master@chinaivaco.com
Stand	Hall 12, A47 (Page 636)

### Product Overview

Guangdong IVACO Glass Technology Co., Ltd.

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.05	Polishing technology
glasstec.02.09.02.03	Laminated glass technology with adhesives, casting resin and laminate
glasstec.02.09.04	Autoclaves
glasstec.02.10.01	Washing machines and equipment



**Product Details**

Guangdong IVACO Glass Technology Co., Ltd.

glasstec.02.02

Drilling technology

**Double-head Numerical Control Vertical Drilling Machine**



The machine adopts computerized control. The worker only have to input the drilling position, lay the glass on the synchronous conveying belt, press start button and it will finish drilling by itself. It will stop automatically after drilling. With the combination of touch screen and PLC control, the color display of operation interface, the machine has reliable properties, high precise and is easy to operate, suitable for batch production with multi-hole of large flat glass.

glasstec.02.03.01.01

Grinding techniques for straight edges

**Numerical Control Double Straight Line Edger**

The machine is suitable for the grinding and polishing the edgers and arris of flat glass.

It is equipped with sophisticated intelligent PC-controlled platform, updated wheel combination

and unique-designed flexible polishing system. The process of grinding and polishing of the glass two parallel flat edges and their four arris' 45 degree bevelled can be completed at one time.

With the incorporation of international famous brand motor, strengthened frame, Italian synchronous belt, the imported advanced servo driving system and working data automatic adjustment, high quality grinding and polishing with high efficiency can be achieved.

glasstec.02.10.01

Washing machines and equipment

**Washing & Drying Machine Roller-Brush Type**



The machine is suitable for washing of glass used in construction, furniture and electrics, particularly for meeting of washing LOW-E Glass which needs hi-efficiency of washing. Two types are optional: Pan Brush and Roller Brush. The washing and drying section can be lifted 400mm automatically, convenient for maintenance.

Two style of adjustment of thickness of glass to be washed are optional: intelligent

and manual with digital display.

**Hangzhou Zhijiang Silicone Chemicals Co., Ltd**

Address	Huangjiahe, ShuShan Street, Xiaoshan 311203 Hangzhou City, Zhejiang Province China (Rep.)
Phone	+86 571 82392772
Fax	+86 571 82392772
Internet address	www.chinazhijiang.com
E-Mail	export@chinazhijiang.com
Stand	Hall 17, C05 (Page 656)

**Product Overview**

Hangzhou Zhijiang Silicone Chemicals Co., Ltd

glasstec.02.11.04

Sealants

glasstec.21.03

Special offers for architects

**Product Details**

Hangzhou Zhijiang Silicone Chemicals Co., Ltd

glasstec.02.11.04

Sealants

**sealants**

Silicone sealant

Polysulphide sealant

Butyl sealant

Acrylic sealant

Polyurethane sealant

MS Sealant

## HASAL Ltd. Sti.



Address	Isiklar cad. 18/3 Ulus 06250 Ankara Turkey
Phone	+90 312 3243919
Fax	+90 312 3104236
Internet address	www.hasal.com.tr
E-Mail	hasal@hasal.com.tr
Stand	Hall 12, D69 (Page 636)

### Product Overview

HASAL Ltd. Sti.

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.02	Drilling technology
glasstec.02.11.01	Tools
glasstec.04.02	Cutting, grinding and drilling tools
glasstec.21.03	Special offers for architects

### Product Details

HASAL Ltd. Sti.

glasstec.02.01.01.01 Cutting technology for float glass

### GLASS CUTTERS AND CUTTING WHEELS

glasstec.02.02

Drilling technology

### Diamond Drill Centering Tool

402 Diamond drill centering tool. Complete INOX Stainless steel, helps to determine centre of the hole on glass surface.



glasstec.02.11.01

Tools

### Glass Cutter Point Head

011-Glass cutter , point steel head, HM Tungsten carbide wheel 135°. Suitable for curved cutting, ruler distance 2mm.



## HDT Hochdruck Dosier Technik GmbH

Address	Am Kruppwald 1 46238 Bottrop Germany
Phone	+49 2041 101302
Fax	+49 2041 778872
Internet address	www.h-d-tec.de
E-Mail	peter.markowitz@h-d-tec.de
Stand	Hall 17, C54 (Page 656)

**Product Overview**

HDT Hochdruck Dosier Technik GmbH

glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.08.06	Sealing techniques
glasstec.02.11.02	Replacement and spare parts
glasstec.02.11.04	Sealants
glasstec.02.11.08.03	Chemical coolants
glasstec.02.11.08.06	Chemical cleaning agents
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)

**Product Details**

HDT Hochdruck Dosier Technik GmbH

glasstec.02.08.06 Sealing techniques

**HD 1 K 20 COMPACT**

The HD 1 K 20 Compact combines the proven technology and typical reliability of the HDT machines, while utilising a most compact design.



**HD 200 CLASSIC**

Hydraulic and reliable proven technology

The HD 200 classic is a hydraulic hand-gunning machine, well proven in the market due to its high output, reliability and technical components.

The integration of many technical control systems guarantees



the safety of the operator as well as problem free production runs.

Consequently the standard features are the realisation of operators' requirements. Use of our accessories enables further adoption to individual requirements.

**HD PRO 6**

Save, Powerful and Ergonomic

The HDT Pro 6 Easy is the front-runner of the hydraulic HDT Hand Gunning Machines. Some of the eye-catching features are the new hexagon base plate which improves the stability and the moveable control panel. The pneumatically supported boom arm enables effective integration into the work process and optimum adoption to local conditions.



glasstec.02.11.08.03 Chemical coolants

**HD F 32 / F 45**

Der Froster HD F 32 / F 45 ist mit seinem sehr großen Kälte- und Wärmehaus insbesondere für das Einfrieren und Auftauen der Mischstrecke mit vermischtem Material geeignet. Die Reaktion des Materials wird unterbrochen und bei erneutem Bedarf im Wärmehaus umgehend aktiviert. Somit sind Sie in der Lage, jeder Zeit Unterbrechungen während der Produktion vorzunehmen. • HD F 32 für PU und PS • HD F 45 für Silikon

glasstec.02.11.08.06 Chemical cleaning agents

**HD QUICK CLEAN**

The Cleaning System - effective and comfortable

Advantages

- Connection with Quick Couplers
- No mixer disassembly necessary



- handily and transportable
- simplest operation
- only air needed
- to use with HDT Ultra Clean

HDT Ultra Clean

- Intensive Cleaner on base of natural won Citrus
- In order to clean Mixers effectively
- To use in all usable Cleaning Systems

**HEGLA GmbH & Co. KG**



Address	Industriestr. 21 37688 Beverungen Germany
Phone	+49 5273 905-0
Fax	+49 5273 905-255
Internet address	www.hegla.de
E-Mail	info@hegla.de
Stand	Hall 15, D25 (Page 648)

**Product Overview**

HEGLA GmbH & Co. KG

glasstec.01.10.06	Stacking machines
glasstec.01.13.01	Feeding and stacking systems
glasstec.01.13.02	Transport and handling systems
glasstec.01.13.03	Conveying, sorting and storage facilities
glasstec.01.13.05	Warehouse technology
glasstec.01.13.06	Glass racks for transport and warehouse
glasstec.01.13.07	Vehicles for glass transport
glasstec.01.13.08	Construction and glazing equipment
glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.01.03	Devices for coating removal
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.01.04.02	Thermal snapping devices
glasstec.02.05.02	Laser-marking technology

**Product Details**

HEGLA GmbH & Co. KG

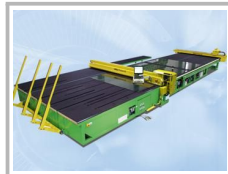
glasstec.02.01.01.01 Cutting technology for float glass

**Cutting Line OPTIMAX**



glasstec.02.01.01.02 Cutting technology for laminated safety glass

**Cutting Line ProLam**



glasstec.02.01.03 Devices for coating removal

**Edge deletion**



glasstec.02.01.04.01 Mechanical snapping devices

**X - Y breaking system**



**Helantec GmbH**



Address	Werner-von-Siemens-Str. 47A 76646 Bruchsal Germany
Phone	+49 7251 85731
Fax	+49 7251 85739
Internet address	www.helantec.de
E-Mail	info@helantec.de
Stand	Hall 17, C16 (Page 656)

**Product Overview**

Helantec GmbH

glasstec.02.08.05	Gas filling machines and gas devices
glasstec.02.11.02	Replacement and spare parts
glasstec.05.01.02.02	Measurement, control and inspection of gas compounds
glasstec.05.01.02.03	Measurement, control and inspection of gas-filling levels
glasstec.05.01.03	Measuring devices to be used on site
glasstec.05.01.05	Control and automation technology
glasstec.05.03.02	Inspection, protocolling and diagnostic systems

**Product Details**

Helantec GmbH

glasstec.02.08.05

Gas filling machines and gas devices

**COMFORT**

Gasfüllung außerhalb der Linie

bis zu 5 Einheiten zeitgleich

bis 750 Einheiten pro Tag

flexible Einstellungen



**Serie RAPIDE**

Wirtschaftliche Gasfüllung innerhalb der Produktionslinie  
900-1800 Einheiten pro Tag (bei zwei Füll-Linien)

wartungsfreundlich (Fernwartung per Modem/Netzwerk)



**Helios Italquartz S.r.l.**



Address Via delle Industrie, 103/A  
20040 Cambiago / MI  
Italy

Phone +39 02 95349318

Fax +39 02 95345085

Internet address www.heliositalquartz.com

E-Mail helios@heliositalquartz.com

Stand Hall 16, C43 (Page 652)

**Product Overview**

Helios Italquartz S.r.l.

glasstec.02.11.02

Replacement and spare parts

**Product Details**

Helios Italquartz S.r.l.

glasstec.02.11.02

Replacement and spare parts

**Quartz glass for optical fibre**

Thanks to the high purity and excellent optical properties, quartz glass is a very important material for the optical fibre industry.

Helios Italquartz can manufacture quartz glass tubes and rods through electric continuous fusion method, oxygen hydrogen flame fusion method and electric vacuum two step fusion method.



Through the use of different producing technologies and different raw materials we can obtain various qualities of quartz glass in order to get a finished good perfect for the particular application.

We can supply substrate quartz glass tube, deposition quartz glass tube, jacket tube for optical fibre production as well as quartz glass tubes and rods for handles and large diameter tubes appropriate to be the furnace chamber for optical fibre processes.

**Quartz glass for semiconductor**

The semiconductor industry needs products made with materials having high purity and excellent thermal properties and quartz glass meets these requests.



Helios Italquartz manufactures quartz glass in different qualities. Our output can appear clear or opaque depending on if we utilize clear crystalline quartz or white quartzite sand.

For the production of quartz glass the raw materials, in combination with the choice of the production method, have the most important role in order to achieve the best quality possible; for this reason the quartz glass we produce for semi-

conductor industry applications is obtained from the purest natural raw materials.

Helios Italquartz can supply quartz glass rods, crucibles, plates, discs, rings, wafer-carriers and tubes in any dimension and shape for the semiconductor use.

Quartz glass tubes are particularly indicated to be the furnace chamber for LPCVD processes, diffusion processes and wafer production processes; thanks the material high purity they can guarantee a low contamination environment.

Quartz glass rods are appropriate for the production of wafer-carriers and quartz tanks; they are manufacture with continuous melting way with a maximum diameter of 70mm.

Quartz glass discs and plates are utilized for the realization of wafer-carriers, quartz tanks and for alignment and exposure processes.

Opaque fused quartz glass rings are used as cross section in process chambers. The opaque quartz ring has the purpose to block the IR energy that runs into the tube wall in order to preserve the o-ring seal that closes the chamber.

Helios Italquartz quality control department works scrupulously to assure that the output goods are suitable to satisfy the costumer's requests.

## Helmut Lingemann GmbH & Co. KG



Address	Am Deckershäuschen 62 42111 Wuppertal Germany
Phone	+49 202 7094-0
Fax	+49 202 7094-288
Internet address	www.helima.de
E-Mail	info@helima.de
Stand	Hall 17, C11 (Page 656)

### Product Overview

Helmut Lingemann GmbH & Co. KG

glasstec.02.11.05	Spacers
glasstec.03.07.09.11	Transom windows

### Product Details

Helmut Lingemann GmbH & Co. KG

glasstec.02.11.05	Spacers
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#### Aluminium Spacers

Lingemann is the world leader in the development and production of high-frequency welded aluminium spacer tubes for the insulation glass industry.

#### HELIMA-Duplex

An easy and cost effective alternative to multi-pane windows.

#### Warm-Edge Aluminium Spacers

The development of our product Nirotec (stainless steel) is based on the demand to optimize the high requirements of the warm-edge unit.

## Hiltex Semi Products bv

Address	Handelsweg 37 1525 RG West Knollendam Netherlands
Phone	+31 75 6871090
Fax	+31 75 6877132
Internet address	www.hiltexsemi.com
E-Mail	sales@hiltex.com
Stand	Hall 12, A39 (Page 636)

### Product Overview

Hiltex Semi Products bv

glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

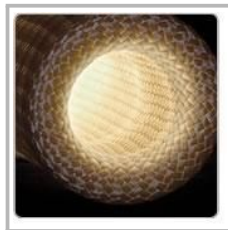
### Product Details

Hiltex Semi Products bv

glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

### ALF

ALF™ is generally called Alumina Fibre. As the composite is 70% Alumina and 30% Silica, we name it Alumina Silica Fibre. The product/yarns are produced as a 7 micron diameter filament and are boron free. The 7 micron diameter allows superior flexibility compared to other available materials. Furthermore, because the fibre is boron-free, problems associated with the release of boron gas are not a factor. Performance and durability of Hiltex Alumina Silica Fibre is superior to other products presently available. ALF suffers almost no loss of mechanical strength at temperatures up to 1200° C and can be used for applications approaching 1395°C.



### Collars

High temperature operation

Temperature stability plays an important part in manufacturing processes and is the key to good quality control. Hiltex collars and discs have excellent dimensional stability, even at temperatures up to 1300°C, and also exhibit good resistance to thermal shocks (CTE: 0.54 ppm/°C).

What's more, their effective insulation properties make it possible to realise energy saving in excess of 12%.

Collars can be produced in various forms such as open or eccentric.

Product choices

ALF 1395°C (2543°F) Quartz 1050°C (1922°F)

### Collars

Custom-made precision products

All Hiltex products are tailor-made to perfectly meet the specific needs of our customers. Hiltex collars and discs are available in all sizes and types, including eccentric and tapered collars,

discs with extra or eccentric holes and 1/2 discs.

Product choices

ALF 1395°C (2543°F) Quartz 1050°C (1922°F)

### Discs

Ultra-pure products for perfect performance

It's no secret that more and more companies are turning to Hiltex collars and discs. And it's

hardly surprising either, when you consider Hiltex's reputation for meeting the very toughest

quality standards. Discs can be produced with various forms such as 2 half segments and/or

with different holes.

Product choices

ALF 1395°C (2543°F) Quartz 1050°C (1922°F)



## Hoses

Designed to work

Hoses, rings and other forms, such as pads, are designed for demanding applications. Hiltex enables customers to optimize process tubes and connected accessories so that they are perfectly insulated, eliminating any risk that condensation can collect if the equipment is switched off.

We can produce practically any form to meet your specific needs.

Product choices

ALF 1395°C (2543°F) Quartz 1050°C (1922°F)

## Hochschule für angewandte Wissenschaften München

Address	Lothstr. 34 80335 München Germany
Phone	+49 89 28924342
Fax	+49 89 28924342
Internet address	www.ormoprint.de
E-Mail	trier@hm.edu
Stand	Hall 11, F81-9 (Page 632)

### Product Overview

Hochschule für angewandte Wissenschaften München

glasstec.02.03.08.02 Digital printing technology

glasstec.03.10.03.02.06 Glass paints

glasstec.03.10.03.02.11 Printing techniques

glasstec.07.01 Universities and High-Schools

### Product Details

Hochschule für angewandte Wissenschaften München

glasstec.02.03.08.02 Digital printing technology

### ORMOJET

ORMOJET für Digitaldruck

## HS Glass Printing SRL

Address	Via Delle Industrie 1 20050 Mezzago (MB) Italy
Phone	+39 039 6020704
Fax	+39 039 6200891
Internet address	www.hsglassprinting.it
E-Mail	info@hsglass.it
Stand	Hall 15, B04 (Page 648)

### Product Overview

HS Glass Printing SRL

glasstec.02.03.08.01.01 Screen printing techniques

### Product Details

HS Glass Printing SRL

glasstec.02.03.08.01.01 Screen printing techniques

### Glassprinting

Handling and screen printing glass engineering

## HUNTSMAN (Germany) GmbH, Osnabrück Betriebsstätte



Address	Hafenringstr. 1 49090 Osnabrück Germany
Phone	+49 541 9141-0
Fax	+49 541 9141-395
Internet address	www.huntsman.com/tpu
E-Mail	simone_richter@huntsman.com
Stand	Hall 11, E46 (Page 632)

### Company News

HUNTSMAN (Germany) GmbH, Osnabrück Betriebsstätte

#### 09/15/2010 HUNTSMAN TO LAUNCH NEW KRYSTALFLEX® FILM AT GLASSTEC

HUNTSMAN TO LAUNCH NEW KRYSTALFLEX® FILM AT GLASSTEC Glasstec 2010 from 28th September to 1st October Stand E46 / Hall 11, Messe Düsseldorf, Düsseldorf, Germany

Osnabrück, Germany – The polyurethane division of global chemical company Huntsman will return to international trade exhibition Glasstec in October with a clear plan of action; to launch a brand new thermoplastic polyurethane (TPU) film to the European glass and lamination market.

KRYSTALFLEX® PE505 is an extremely tough, yet highly flexible, optical aliphatic TPU film that offers superior impact and penetration resistance as well as excellent transparency and enhanced UV stability. Designed primarily for use in transparent armor employed in military vehicles, this technical interlayer enables the production of thin, lightweight glazing systems that offer improved anti-blast properties and ballistic protection.

With high hardness, medium modulus and the ability to perform exceptionally well at both high and low temperatures, KRYSTALFLEX® PE505 will prove popular across the military sector. It is also being targeted for use in general security

and intrusion resistant glazing projects as well as aerospace and rail applications.

KRYSTALFLEX® PE505 is the latest innovation to emerge from Huntsman's global TPU research and development center in Derry, New Hampshire, USA. It extends the company's film technology platform, already the broadest of its kind in the glazing and glass lamination sector.

Marco Zajac, Huntsman Polyurethanes' Product Manager for KRYSTALFLEX® in Europe said: "While the basic chemistry of our TPU films has remained largely the same for many years, we have intensified our research and development programme to create innovative new products like KRYSTALFLEX® PE 505. The result is a portfolio of premium glazing films, built on solid scientific understanding, that enables us to meet modern glazing demands. KRYSTALFLEX® PE505 is a unique new interlayer from Huntsman that provides superior impact performance at any temperature from the coldest winter nights to the hottest summer days. We look forward to showcasing its capabilities at Glasstec and demonstrating what can be achieved with continual investment in innovation."

Like other TPU films available from Huntsman, KRYSTALFLEX® PE 505 can be produced at varying degrees of thickness to meet exact performance traits – a significant advantage for customers who want custom made solutions that offer superior performance.

The film also comes with the added benefit of in-depth technical support. Huntsman is one of the only suppliers to the glass lamination sector to have experts readily available to answer customers' product and application specific questions. Helping manufacturers overcome design and production challenges, these individuals work closely with Huntsman's local sales staff in a support network that spans the globe. Representatives from the worldwide technical team and sales force will be present at Glasstec to discuss sector developments and individual requirements with customers on a one-to-one basis.

For more information about KRYSTALFLEX® or the full range of TPU film and sheet solutions available from Huntsman Polyurethanes, please contact:

EAME: Marco Zajac, Product Manager KRYSTALFLEX® – Europe Region email: marco\_zajac@huntsman.com / mobile: +49 151 1257 0948 AMERICAS: Mike Griffin, Account Manager email: michael\_j\_griffin@huntsman.com / mobile: +1 334 332 4783 APAC: Henry Yao, Sales Manager – TPU China email: henry\_yao@huntsman.com / mobile:+86 13 81 766 5312

(ends)

About Huntsman: Huntsman is a global manufacturer and marketer of differentiated chemicals. Its operating companies manufacture products for a variety of global industries, including chemicals, plastics, automotive, aviation, tex-

tiles, footwear, paints and coatings, construction, technology, agriculture, health care, detergent, personal care, furniture, appliances and packaging. Originally known for pioneering innovations in packaging and, later, for rapid and integrated growth in petrochemicals, Huntsman today has 11,000 employees and operates from multiple locations worldwide. The Company had 2009 revenues of approximately \$8 billion. For more information about Huntsman, please visit the company's website at www.huntsman.com.

Forward Looking Statements: Statements in this release that are not historical are forward-looking statements. These statements are based on management's current beliefs and expectations. The forward-looking statements in this release are subject to uncertainty and changes in circumstances and involve risks and uncertainties that may affect the company's operations, markets, products, services, prices and other factors as discussed in the Huntsman companies' filings with the U.S. Securities and Exchange Commission. Significant risks and uncertainties may relate to, but are not limited to, financial, economic, competitive, environmental, political, legal, regulatory and technological factors. In addition, the completion of any transactions described in this release is subject to a number of uncertainties and closing will be subject to approvals and other customary conditions. Accordingly, there can be no assurance that such transactions will be completed or that the company's expectations will be realized. The company assumes no obligation to provide revisions to any forward-looking statements should circumstances change, except as otherwise required by applicable laws.  
(ends)

Product Overview		HUNTSMAN (Germany) GmbH, Osnabrück Betriebsstätte
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass	
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass	
glasstec.02.09.02.03	Laminated glass technology with adhesives, casting resin and laminate	
glasstec.03.02.02.01	Laminated safety glass	

glasstec.03.02.02.02 Laminated glass, synthetic-coated

glasstec.03.02.04.01 Fireproof glass

**Product Details**

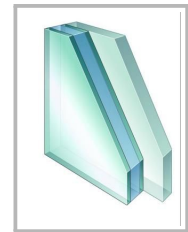
HUNTSMAN (Germany) GmbH, Osnabrück Betriebsstätte

glasstec.02.09.02.03 Laminated glass technology with adhesives, casting resin and laminate

**KRYSTALFLEX®**

KRYSTALFLEX® – optical laminating interlayers

Our global KRYSTALFLEX® optical laminating interlayers with an experience of more than 20 years have been specified within the broadest range of applications in the glass application area and setting the industry reference since that time. Huntsman is uniquely focused on the needs of the glass laminator. It is with this focus and understanding of applications & processes that we are able to engineer performance into a TPU film interlayer.



Higher impact resistance and lower weight than is possible with all glass constructions. Krystalflex® polyurethane films are used to combine glass and an optical-quality, high impact plastic sheet, such as polycarbonate, for a wide range of bullet resistant or impact resistant glazing composites

It is with this understanding of the industry that Huntsman has extended its portfolio to offer products that process under lower temperature lamination cycles, thus producing glass / plastic composites with lower stress, longer term adhesion and consequently higher ballistic resistance. These specialty optical aliphatic KRYSTALFLEX® films have been designed to provide functionality previously unavailable in optical interlayer films. We aim to help you to exceed your customers' expectations because COOLER is BETTER.

Within Huntsman we will continue to set the pace in interlayer films through technical excellence and customer support, enabling us to work with our laminators to "push the envelope" towards the construction of even more challenging products. If you would like to discuss your specific application or would like more general information about what Huntsman KRYSTALFLEX® films can do for you, please visit us at Glasstec in Hall 11 A01.

## IBG Monforts Walzentechnik GmbH & Co. KG

Address	Schwalmsstr. 301 41238 Mönchengladbach Germany
Phone	+49 2166 868253
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E-Mail	wt@ibg-monforts.de
Stand	Hall 12, B62 (Page 636)

### Product Overview

IBG Monforts Walzentechnik GmbH & Co. KG

glasstec.02.10.01	Washing machines and equipment
glasstec.02.10.02	Brushing, high-pressure and ultrasonic systems
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)

### Product Details

IBG Monforts Walzentechnik GmbH & Co. KG

glasstec.02.10.02	Brushing, high-pressure and ultrasonic systems
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#### IBG Präzisions-Bürstwalzen

IBG Präzisions-Bürstwalzen mit Vollbesatz und Konturbesatz können in allen Längen und Durchmessern hergestellt werden. Die längste bisher gelieferte Walze hatte eine Besatzlänge von mehr als 7 Metern .



Das Beborstungssystem "Vollbesatz" zeichnet sich dadurch aus, daß alle Borsten vereinzelt - also nicht in Büschelform oder haarnadelartig

- in den Borstenträger eingestetzt sind. Damit erreicht man ein streifenfreies, absolut gleichmäßiges Bürstbild, z.B. eine Flororientierung von Velourware.

Darüber hinaus bringt diese Ausführung als Waschbürste oder Reinigungswalze absolut saubere Oberflächen. Durch variable Besatzdichten und Borstenhöhen sowie die richtige Borstenstärke und das richtige Borstenmaterial können alle Probleme gelöst werden.

Die IBG-Präzisions-Bürstwalze mit austauschbaren Bürstenbesatz-Elementen vermeidet Produktionsausfall, der bei Neubeborstungen eintritt. Beim Einsatz im Feuchtbereich sollte der Walzenkern galvanisch korrosionsgeschützt oder aus rostfreiem Edelstahl gefertigt sein.

## IDROTECNICA s.r.l.

Address	Via Sardorella, 125 16162 Genova Italy
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Internet address	www.idrotecnica.com
E-Mail	sales@idrotecnica.com
Stand	Hall 17, C62 (Page 656)

### Product Overview

IDROTECNICA s.r.l.

glasstec.02.10.01	Washing machines and equipment
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**Product Details**

IDROTECNICA s.r.l.

glasstec.02.10.01

Washing machines and equipment

**Serie IDRO RO DPS**

High purity

Devices of the Idro Ro DPS series have been developed for particular application where high water purity is required. In these devices, water is processed in a two stage reverse osmosis system consisting of two reverse osmosis units connected in series.



**IfG - Ingenieurbüro für Glastechnik GmbH**



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71334 Waiblingen  
Germany

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Internet address   www.ifg-glass.com

E-Mail            info@ifg-glass.com

Stand             Hall 15, E22 (Page 648)

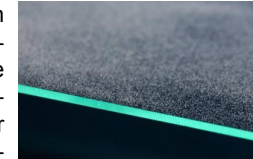
**Company News**

IfG - Ingenieurbüro für Glastechnik GmbH

09/08/2010

**Online Measuring Systems for powder quantity/glass thickness and opacity**

Ingenieurbüro für Glastechnik or IfG in short will be on hand together with its cooperation partners to participate as exhibitors at the Glasstec for the 15th time now. As specialist for solutions involving the application of separating agents, IfG has made a name for itself worldwide and further established its global network of local partners and service technicians over the past few years.



This year's exhibit at Glasstec focuses primarily on systems for identifying separating agents on glass. Together with its business partners Grafix GmbH (Stuttgart) und ksl staubtechnik (Lauingen / Donau), IfG will unveil three new products that were developed to monitor the application of separating agents. In addition, the corporate alliance presents special sensors for opacity and color.

Overview of New Products for 2010:

- EPS Vision System If necessary, one to two cameras are used to check the application of separating agents and provide the user with feedback as to whether the relevant prerequisites are fulfilled. "EPS vision system" is used, for instance, in the production of windshields and can easily be integrated in all glass production and processing lines.

- EPS Powder Detection System The system is based on sensors that facilitate the online monitoring of separating agents on glass. Depending on the application, 1 to 20 sensors can be used at the same time.

- IfG Opacity and Color Analyzer By combining a capable electronic measuring system with an external light source, we have made it possible to measure both the opacity and color value of products.

08/05/2010

**IfG news on glasstec**

At IfG the service life and reliability of our systems are always at the forefront of our development and ensure production reliability for our customers. Both the continual new development as well as the modification and optimization of existing products are an integral part of IfG's philosophy. The technology implemented in powder spraying systems is constantly being improved, and IfG always has new ideas for further optimizing the customers' standards and the quality of their products. The following technical changes and new developments of the past few years have proven their



worth in practical application:

EPS Economic Powdering System - EPS Eco Series – Introduction of a robust and yet cost-effective line, which allows for the use of standard components of tried and tested systems. - EPS-LP System (Low pressure) – the introduction of this system was a resounding success: Since its unveiling at Glasstec 2006, more than 160 systems of this type have been installed. - EPS Basic – this system is especially suited for use in smaller formats as is common in the solar energy segment, for instance. - Double EPS – for greater production reliability: The systems have a redundant design of up to 95%, which means that there are two of all essential components available should one fail. IfG customers especially appreciate this in the float and coating lines with high production volumes or sensitive products. The highlight of the Double-EPS system is its ability to handle two types of powders, which can be applied variably alternating from glass to glass. - Ethernet interface as standard feature for all Single and Double EPS systems. - Automatic adjustment of width of powder spray – every nozzle can be activated and deactivated individually. That saves on separating agents when it comes to varying glass widths and decreases the soiling of the roller bed. - Fluidization was revised completely – to ensure optimal metering of critical powder types such as powders based on coconut shells or powders with high acidity, and to assure reliability in production. - Low-maintenance Premium Pump – for safeguarding the supply of air to the EPS system, we utilize optimized pumps that have a maintenance interval extended by 700%.

Powder Removal System - Contactless powder removal, e.g. in an offline cutting line upstream of the cutting process. Several systems have already been installed in Germany, Czech Republic and Poland.

Take the opportunity to find out everything you need to know during your visit to Glasstec: the entire IfG team is looking forward to meeting you at our stand E22 in Hall 15.

IfG Ingenieurbüro für Glastechnik GmbH Brunnweinbergstr. 19 71334 Waiblingen Tel 07151-4879770 Fax 07151-275207 Email info@ifg-glass.com www www.ifg-glass.com

## Product Overview

IfG - Ingenieurbüro für Glastechnik GmbH

glasstec.01.10.04	Paper applying machines
glasstec.01.10.05	Separator applying machines
glasstec.02.01.03	Devices for coating removal
glasstec.02.06.02	Enamel glass machines, screen printers, thermal pressure equipment
glasstec.02.10.02	Brushing, high-pressure and ultrasonic systems
glasstec.02.11.08.05	Chemical protection material for glass
glasstec.02.11.08.07	Other chemicals
glasstec.02.14	Nanotechnology
glasstec.03.10.01.04.04	Nano coating technology
glasstec.03.10.03.01.06.06	Coating of automotive glass
glasstec.03.10.03.01.06.06	Coating of flat glass
glasstec.05.01.01.04	Measurement and control of glass thickness
glasstec.05.01.01.08	Measurement and control of glass colour
glasstec.05.01.02.01	Surface, contour and imperfection measurement and control

**Product Details**

IfG - Ingenieurbüro für Glastechnik GmbH

glasstec.02.01.03 Devices for coating removal

**powder removal**

System for removal separating agents from glass, the system is working contactless.



glasstec.02.06.02 Enamel glass machines, screen printers, thermal pressure equipment

**Systems for surface refinement of glass**

Systems for surface refinement of glass (varnishing, enamelling, hydrophobic and hydroscopic coatings, etc.). Pilot plant station for customer-optimised spraying tests.



glasstec.02.10.02 Brushing, high-pressure and ultrasonic systems

**Powder Extraction System**

System for extracting powder off the glass plate.



glasstec.02.11.08.07 Other chemicals

**Separating powder**

Together with the company of KSL staubtechnik gmbh we use a highly efficient conditioning technology to produce high-capacity separating powders for the glass industry. Thanks to its outstanding quality, the temperature proof calcium carbonate (CaCO<sub>3</sub>) is a standard ingredient of many large windscreen glass manufacturers today.



Also regarding the float glass, mirror glass and coated glass sectors, our plastic and starch-based products have proven their value outstandingly. Thanks to an efficient sorting technique and a very tight grain-size distribution curve it is possible to produce both standard separating powders as well as special separating powders.

**IGIS Co., Ltd**

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Fax	+82 61 3839477
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E-Mail	
Stand	Hall 15, C25 (Page 648)

**Product Overview**

IGIS Co., Ltd

glasstec.02.08.01 Complete plant for insulating glass production

glasstec.21.03 Special offers for architects

**Product Details**

IGIS Co., Ltd

glasstec.02.08.01 Complete plant for insulating glass production

**AUTOMATIC EDGE STRIPPER**

Driven and controlled by the digital servo motor

Smaller machine and increased working speed, thanks to the adsorption conveyor belt system of the continuous circulation type

Prevents worker errors through a device that automatically senses the coating surface of Low-e glass

Covers a wide range of work depending on the spacer depth

(between 10 ~50mm)

Function of processing glass surfaces into various shapes

Summary Description

Max. Glass size(mm) : 2,450(H) x 4,000(L)

Min. Glass size(mm) : 250(H) x 400(L)

Glass thickness(mm) : 3 ~30

Work Speed : 10 ~40m/min

Strip Width(mm) : 10 ~50

## IGK Isolierglasklebstoffe GmbH



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E-Mail	info@igk-frankfurt.com
Stand	Hall 17, C06 (Page 656)

### Product Overview

IGK Isolierglasklebstoffe GmbH

glasstec.02.11.04	Sealants
glasstec.02.11.08.01	Chemical drying equipment

### Product Details

IGK Isolierglasklebstoffe GmbH

glasstec.02.11.08.01 Chemical drying equipment

### Molekularsiebe

## IMSA IMPEX S.r.l.



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Fax	+39 0481 570244
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E-Mail	info@imsa.it
Stand	Hall 16, D59 (Page 652)

### Product Overview

IMSA IMPEX S.r.l.

glasstec.02.08.01 Complete plant for insulating glass production

### Product Details

IMSA IMPEX S.r.l.

glasstec.02.08.01 Complete plant for insulating glass production

### Acoustic insulating glass

#### Decorative glass

Ornamental glass – clear and coloured Mirrors – clear and coloured Acid treated decorative glass – clear and coloured Enamelled glass Screen-printed glass

#### Float glass

clear and coloured



### Safety glass

Laminated glass Tempered glass Glass for protection against burglary, fire, firearms, noise, radiation and electromagnetic waves Coloured laminated glass Tempered curved glass

### Solar control glass

### Special glass for particular use

Anti-reflective glass Electrically operated vision control glass Bolted glass assembly with articulated point-fixing others

### Thermal insulating glass

## INDUSTRIAL OLMAR , S.A.

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E-Mail	info@olmar.com
Stand	Hall 11, G46 (Page 632)

### Product Overview

INDUSTRIAL OLMAR , S.A.

glasstec.02.09.04 Autoclaves

### Product Details

INDUSTRIAL OLMAR , S.A.

glasstec.02.09.04 Autoclaves

### Autoclaves

OLMAR autoclaves are also used in the production of glass sheet. From large glass sheet to small units used as car windshields and household applications. In this sense in the interior of OLMAR autoclaves it is possible to produce glass sheet up to 4 m. in diameter to any practical length to fit our customers specifications. We also offer small size autoclaves specially designed to be used by small and medium-size companies.



Our electric and steam heated systems, controlled by a powerful electric unit offers a surprising degree of accuracy.

In addition to the autoclaves, we have developed the new Heat Soak Test furnaces, which make possible the testing of glass sheet required by the legislations in force.

## Intermac Glass and Stone Division



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Stand	Hall 16, A59 (Page 652)

**Company News**

Intermac Glass and Stone Division

**06/23/2010 Intermac Glass & Stone Division at Glasstec 2010**

Intermac's stand at Glasstec 2010 will occupy an area of about 800 m2 and will be subdivided into different dedicated spaces.



**Cutting:** Intermac will display a Comby R-A37 line for alternate cutting of monolith and laminated glass. This is an ideal solution for glassworks that need to have two automatic lines, one for float glass and one for laminated glass, but have a limited production surface area. With Comby it is possible to maintain the same productivity levels on the machines composing the line, while obtaining a significant reduction in overall dimensions and a strong increase in productivity and process automation against a limited increase in the investment required. Two laminated glass cutting solutions will also be presented: Genius 37 LM (semi-automatic) and Genius 37 LM-A (automatic). These machines have been designed to offer different customers a very fast machining cycle and have the operator's comfort at the centre of the project. Genius 37 CT RS is a cutting table for monolith glass intended for glassworks with limited space available (also vertically during unloading of glass sheets) that offers the same level of technology as the famous Genius 37-61 CT tables.

**Waterjet:** To represent the segment of water cutting systems this year, Intermac's new Primus with 5-axis operating head will be available for demonstration. A solution which offers a series of undisputable advantages for those faced with specific machining such as glass for domestic appliances and household objects. Among the advantages of this solution is the ICad software migrated from the Master series work centres and which many owners of Intermac CNC's already know.

**Work centres:** Intermac's unequalled technological leadership in the sector of glass work centres will be confirmed by the presence at the trade fair of a Master 45 centre (5-axis operating head) and a Master 33 centre (3-axis operating head).

**Double edging grinding:** Busetti, leading trademark in the grinding machine sector will be present at the fair with two single machines: one dedicated to flat edges (F Series) and one dedicated to pencil edges (P Series).

**Drilling:** Last but not least, on the stand it will also be possible to attend demonstration sessions of the most representative machines of the Busetti drilling machinery range, namely the V Series vertical drilling machine for large glass sheets and the semi-automatic drill called Giò.

**Tempering:** The Intermac-BHT partnership, one of the reference trade name

for the top tempering furnace segment, which was launched at the time of last year's Glasstec exhibition, continues and this year BHT staff will also be present on the Intermac's stand in a dedicated corner with videos, samples and all what necessary to satisfy all our customers' requests and curiosity.

**Product Overview**

Intermac Glass and Stone Division

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.03.05	Polishing technology
glasstec.02.11.01	Tools
glasstec.03.10.01.01.07	Machinery/tools
glasstec.03.10.03.01.01	Grinding technology
glasstec.21.02	Special offers for glass trade / crafts

**Product Details**

Intermac Glass and Stone Division

glasstec.02.01.01.01	Cutting technology for float glass
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**Genius 37 CT RS**

Genius 37 CT RS is the shaped cutting table that the market was in need of. The

mix of performance and reliability (equivalent to those that have made the Genius 37 CT a worldwide success), the compact overall dimensions (even in height) and the reduced investment, make this machine the richest solution in its market segment. With Genius 37 CT RS the workcraft and the smaller businesses will acquire the ideal work tool to solve all their problems concerning the cutting of glass.

Examples of the various cut types

Example of vinyl cutting

Ground worktable

The machine bed is made by a rigid frame onto which calibrated wooden panels are fitted in order to guarantee a high grade of flatness of the working area that is necessary to obtain the best results from the glass cutting or break-off operations.

Operating head

Genius 37 CT RS are equipped with a hi-tech operating head fitted with an automatic cutting pressure control system. This mechanism controls the pressure of the cutting wheel from the very beginning to the end of the cut, automatically adjusting the pressure according to the geometry of the cutting path. The PC controlled axis speed and the high quality of all the electronic and mechanical components allow the optimisation of the cutting time, thus guaranteeing flexibility and continuity of operation.

Control machine

The Genius 37 CT RS also incorporates something completely new in the field of cutting tables: the IWNC numerical control integrated in a commercial personal computer operating a Windows interface. The use of a PC with Windows operating system is extremely simple and intuitive for the operator and provides full connectivity with commercially available network systems and optical/magnetic supports. The PC is supplied complete with CD-ROM drive, modem and network card, 17" colour monitor and Windows XP operating system. The PC modem and teleservice software enable remote diagnostics and software updating/modification through the use of a telephone line. It's possible to connect a webcam to the PC, to save and transmit in real time instant images of some details of the machine to the Service Department.

glasstec.02.02

Drilling technology

### Gió 1250

Busetti is a brand specialized in the production of glass drilling machines.

The Busetti Gió 1250 are drilling machines with two opposing heads, that represent

resent the ideal solution for glass workshops who require ease of use and maximum precision in the execution of holes from 3 to 130 mm diameter.

With a reduced investment, Gió 1250 allows to perform high quality holes, thanks to the high rotation speed of the operating heads and the sturdy frame of the machine. The high quality of the mechanical components guarantees reliability over time.

The Gió 1250 are equipped with inverter for the spindle rotating speed management.

glasstec.02.03.01.01

Grinding techniques for straight edges

### Serie P

P Series - Machine for the processing of pencil edge and flat edge with arris. Combinations up to 6 wheels for each side, and standard sizes up to 3200 mm with 2-12 mm thickness. It allows an increased productivity and resistance to higher work loads. The modular conception of these machines offers the customer a made to measure machine but with all the advantages of a highly industrialized product

Examples of processed pencil edge profiles

Detail of the overturned peripheral wheels

Some examples of possible workings

Pencil edge

Pencil edge with surface engraving

Pencil edge with central grooving

Flat edge with arris processed with peripheral wheels

Spindles

The structural solidity of the spindles avoids any vibration even in case of big removals

HSD NC

Interactive operative panel with TFT 6" colour monitor. Multitask function enabling the programming during machining. Possibility to handle the whole line from one position

## ISIMAT GmbH - Siebdruckmaschinen

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Stand	Hall 12, F70 (Page 636)

### Product Overview

ISIMAT GmbH - Siebdruckmaschinen

glasstec.02.06.02 Enamel glass machines, screen printers, thermal pressure equipment

### Product Details

ISIMAT GmbH - Siebdruckmaschinen

glasstec.02.06.02 Enamel glass machines, screen printers, thermal pressure equipment

### RS 7480 screen printing machine

ISIMAT's servo-based RS 7480, a seven colour screen printing machine for decorating glass hollowware with UV inks at production speeds of up to 80 items/min. The RS 7480 features a rotary indexing ring. Each print head, screen, and fixture is driven by its individual servomotor; this makes printing wrap arounds on oval and on rectangular bottles with round corners possible. The selection of the cross section of the printing area at the touch screen pre sets the movements of screen, squeegee and item printing. An item can be oriented to ensure a correct positioning of an image. Registering in the printing stations is not required. Servo drives reduce changeover times; reliability and speed make the RS 7480 ideal for 24/7 production. The RS 7480 operates in-line with a UVitro surface treatment unit; ISIMAT's patented surface treatment that ensures lasting adhesion of UV inks on glass.

Items: glass hollowware such as bottles, glasses, flacons

Item dimensions: diameter 30 - 120 mm, length 50 - 350 mm

Production speed: up to 80 items/min

### RS 9480 TP screen printing machine

ISIMAT's servo-based RS 9480 TP, a nine colour screen printing machine for decorating glass hollowware with thermoplastic inks. The RS 9480 features a rotary indexing ring. Each print head, screen, and fixture is driven by its individual servomotor; this makes printing wrap arounds on oval and on rectangular bottles with round corners possible. The selection of the cross section of the printing area at the touch screen pre sets the movements of screen, squeegee and item printing. An item can be oriented to ensure a correct positioning of an image. The orientation station is independent of the printing station. Servo drives reduce changeover times; reliability and speed make the RS 9480 ideal for 24/7 production.

Items : glass hollowware such as bottles, glasses

Item dimensions : diameter 30 - 120 mm, length 50 - 350 mm

Production speed : up to 80 items/min

## Italmatic Presse e Stampi S.r.l.

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Stand	Hall 16, D32 (Page 652)

**Product Overview**

Italmatic Presse e Stampi S.r.l.

glasstec.02.09.04 Autoclaves

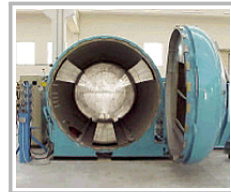
**Product Details**

Italmatic Presse e Stampi S.r.l.

glasstec.02.09.04 Autoclaves

**AUTOCLAVES**

AUTOCLAVES FOR GLASS STRATIFICATION



**Italmole S.N.C. di Venturi G & C**

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Stand	Hall 17, B61 (Page 656)

**Product Overview**

Italmole S.N.C. di Venturi G & C

glasstec.02.11.08.02 Chemical grinding and polishing materials

**Product Details**

Italmole S.N.C. di Venturi G & C

glasstec.02.11.08.02 Chemical grinding and polishing materials

**CP - white color**

elastic CERIUM OXIDE compound, adds luster. The Company offers four types of polishing wheel. Types CR and CP are available in cup shape only. The PL type is a spongy compound that incorporates CERIUM OXIDE with incredible adaptability; for this reason it is available in all forms: INCISION-PERIPHERAL-CUP. IRIDE , a rather rigid compound that offers attractive results in both PERIPHERAL and INCISION form, and IRIDE , are often used to polish marble as well.



**Janbac-Baudin (Groupe)**



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Stand	Hall 11, F13 (Page 632)

**Product Overview**

Janbac-Baudin (Groupe)

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.01.04.02	Thermal snapping devices
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.03.01.03	Grinding techniques for formed glass
glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies
glasstec.02.03.05	Polishing technology
glasstec.02.03.07	Water treatment for grinding technology
glasstec.02.03.08.01.01	Screen printing techniques
glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.02.09.01.02	Furnaces for chemical pre-tempering of glass
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass

glasstec.02.09.02.02 Laminated glass technology with foil for automotive glass

glasstec.02.09.02.03 Laminated glass technology with adhesives, casting resin and laminate

glasstec.02.10.01 Washing machines and equipment

glasstec.02.10.03 Waste water treatment equipment

**Product Details**

Janbac-Baudin (Groupe)

glasstec.02.03.01.01 Grinding techniques for straight edges

**Straight line edging machine**

General points concerning our straight line edging machines

Simple and robust construction Very simple to use Easy, low-cost maintenance

**Jiangmen Jiangyi Machinery Co., Ltd.**

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Stand	Hall 10, F46 (Page 628)

**Product Overview**

Jiangmen Jiangyi Machinery Co., Ltd.

glasstec.02.11.01	Tools
glasstec.02.11.02	Replacement and spare parts
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
glasstec.03.10.01.01.02	Glass door systems
glasstec.03.10.01.01.06	Brackets and fittings
glasstec.04.02	Cutting, grinding and drilling tools

**Product Details**

Jiangmen Jiangyi Machinery Co., Ltd.

glasstec.02.11.01 Tools

**Tools**



**Jinan Deca Glass Machine Co., Ltd.**

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E-Mail	decaglassirene@gmail.com
Stand	Hall 17, B12 (Page 656)

**Product Overview**

Jinan Deca Glass Machine Co., Ltd.

glasstec.02.08.03 Production equipment for insulating glass frames

**Product Details**

Jinan Deca Glass Machine Co., Ltd.

glasstec.02.08.03 Production equipment for insulating glass frames

**plant for insulating glass**

It already researched and produced two major series and more than nearly 50 pieces of assortment, including the gainer and producers of the states patent for the first set of butyl coater with man-machine interface, the first production line for vertical insulating glass in China. And the LB1500A, LBZ1800PA, LBZ2500P and LBZ2700P type of Vertical Insulating Glass Production Line and some other accessory equipment, which can dispose according to the needs of customers, suitable for all kinds of enterprises. All these products had joined the market and got so good market reaction.

## Johnson Matthey B.V.



Address	Fregatweg 38 6222 NZ Maastricht Netherlands
Phone	+31 43 3525400
Fax	+31 43 3525555
Internet address	www.colour.matthey.com
E-Mail	sales@matthey.com
Stand	Hall 12, F06 (Page 636)

### Product Overview

Johnson Matthey B.V.

- glasstec.02.11.09 Highly opaque special colours and conductive silver pastes for automotive glass
- glasstec.03.10.03.02.06 Glass paints
- glasstec.03.10.03.02.07 Precious metal preparations

### Product Details

Johnson Matthey B.V.

- glasstec.02.11.09 Highly opaque special colours and conductive silver pastes for automotive glass

#### Glass enamels for tempering process

As there are different methods used to form the glass (press bending, sag bending) and there are many different requirements for different types of vehicles. Johnson Matthey Glass has built up an extensive product portfolio for this type of application. All products are heavy metal free and can have one or more of the following characteristics:

non-stick different grades of chemical resistance high optical density low glass weakening different firing temperatures deep black colour silver hiding

## JSJ Jodeit GmbH



Address	Am Nasstal 10 07751 Jena Germany
Phone	+49 3641 6229-20
Fax	+49 3641 6229-40
Internet address	www.jsj.de
E-Mail	jodeit@jsj.de
Stand	Hall 15, B24 (Page 648)

### Product Overview

JSJ Jodeit GmbH

- glasstec.01.04.02 Forehearth technology
- glasstec.01.04.03 Smelting technology for tank furnaces
- glasstec.01.04.07 Recuperative systems
- glasstec.01.04.08 Electrically heated systems
- glasstec.01.07 Equipment for glass tube production
- glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass
- glasstec.02.09.01.02 Furnaces for chemical pre-tempering of glass



glasstec.05.01.05	Control and automation technology
glasstec.05.03.04	Process control systems
glasstec.06	Contracting, consulting, engineering, services

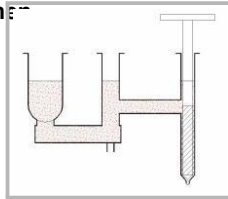
#### Product Details

JSJ Jodeit GmbH

glasstec.02.09.01.02 Furnaces for chemical pre-tempering of glass

#### Glassschmelzen unter Einsatz von Edelmetall-Systemen

Der allgemein zunehmende Trend zum Einsatz von Pt- und Rh-Materialien resultiert aus den Forderungen des optischen und technischen Glases und lässt sich in verschiedenster Form für alle technologischen Abschnitte der Glasschmelze und Glasverarbeitung nachweisen.



JSJ ist in der Lage folgende Systeme für den Bereich Schmelze bereitzustellen:

- \* Platinelektroden in Verbindung mit den notwendigen Mittelfrequenz-Anlagen z.B. für o LCD-TFT-Wannen o Brillenglaswannen
- Kontinuierlich betriebene Pt-Kleinschmelzer (s.U.) nach der Cold-Top-Technologie mit direkt elektrischer Beheizung des Edelmetallsystems. Sie sind gekennzeichnet durch:
  - o Technologisch gegliederter Aufbau in verschiedene verbundene Bereiche, mit separater Beheizung o Auslaufgestaltung mit Schraubenplunger und Rohr- bzw. Düsenbeheizung, d.h. hohe Flexibilität hinsichtlich Durchsatz und Tropfengestaltung; Durchsatzbereich etwa 50 kg/d
  - Großtiegelanlagen mit induktiver oder Gas-Beheizung mit Rührtechnik und Auslaufsystemen zur Herstellung von Sondergläsern, wie z.B. Substraten für Harddisk, a-min Glaskeramiken
  - Elektro- und MSR-Technik für Pt-Refiner und Feedersysteme und Betriebstechnologie für diese Systeme mit kompetenten Partnerfirmen für:
    - o Borosilikatgläser o LCD-Gläser wie TFT und STN

#### JUTEC® Hitzeschutz GmbH

Address	Mellumstr. 23-25 26125 Oldenburg Germany
Phone	+49 441 30099-0
Fax	+49 441 30099-99
Internet address	www.jutec.com
E-Mail	info@jutec.com
Stand	Hall 10, F42 (Page 628)

#### Product Overview

JUTEC® Hitzeschutz GmbH

glasstec.01.02.01	Refractory materials
glasstec.02.11.03	Insulating C203materials
glasstec.02.11.04	Sealants
glasstec.03.06.02	Braided wire hoses and straps made of fibreglass
glasstec.04.05	Protection devices
glasstec.04.06	Working clothing

#### Product Details

JUTEC® Hitzeschutz GmbH

glasstec.02.11.03 Insulating C203materials

#### Hitzebeständige Schutzschläuche

- Die Schutzschläuche bestehen aus hitzebeständigem Gewebe, die sowohl gegen Strahlungshitze als auch

gegen Kontakthitze schützen

- Unser Maschinenpark ermöglicht eine Maßanfertigung nach Ø-Angabe der Schlauchpakete, Rohre sowie Flansche etc. Auf Wunsch können die Schutzschläuche auch mehrschichtig isoliert gefertigt werden.

### Isolierstoffe

JUTEK® bietet Glasvliese in den Temperaturbereichen von 500°C- 1200°C an. Diese Vliese werden in den verschiedensten Bereichen der Industrie eingesetzt. Insbesondere die Silikatvliese mit einer Temperaturbeständigkeit bis ca. 1200°C ersetzen zunehmend Asbest und Keramik.



Als Basismaterialien dienen thermisch beständige Glasfasern. Die Fasern werden vernadelt und/oder versteppt. Dadurch wird ein großes Speichervolumen und somit ein günstiger Wärmeleiter erreicht. Diese Vliese besitzen gute textile Eigenschaften. Sie sind leicht zu stanzen und zu schneiden, elastisch, weich sowie einfach in der Handhabung.

Wir erzielen mit diesen Materialien bei unterschiedlichsten Dicken (4 - 25 mm) Wärmeleitwerte von 0,03 bis 0,33 (W/mK).

Einsatzbereiche:

- Katalysatoren- und Abgasrohr-Isolation
- Schallabsorber im Hochtemperaturbereich
- Wärmedämmung an Aluminium-, Stahl- und sonstigen Industrieöfen
- Isolationsmatten zum Induktionsschweißen
- Isolation von Kraftwerksanlagen

Bänder, Schnüre, Schläuche, Packungen

Überall wo mit hohen Temperaturen industriell gefertigt wird, kommt es auf höchste Zuverlässigkeit an. Die JUTEK-Produkte werden auf Basis mineralischer und /oder keramischer Fasern für unterschiedlichste Anwendungsbereiche produziert und zeichnen sich durch ihren hohen Isoliercharakter aus. Generell sind sie mit einer festen Webkante ausgerüstet. Zum Einsatz kommen unsere Lösungen z.B. in der Metall herstellenden

Industrie, in der Glasindustrie, beim Ofenbau, in Kokereien u.s.w.

## KAMMANN Maschinenbau GmbH

Address	Bergkirchener Str. 228 32549 Bad Oeynhausen Germany
Phone	+49 5734 5140-0
Fax	+49 5734 5140-5130
Internet address	www.kammann.de
E-Mail	mail@kammann.de
Stand	Hall 12, C41 (Page 636)

### Product Overview

KAMMANN Maschinenbau GmbH

glasstec.02.03.08.01.01 Screen printing techniques

### Product Details

KAMMANN Maschinenbau GmbH

glasstec.02.03.08.01.01 Screen printing techniques

#### K9 V

Die modulare Siebdruckmaschine für Runddruck auf Glas und Kunststoff

Konzept:

Siebdruck bis sechs Farben UV oder thermoplastisch (keramisch oder organisch) auf zylindrischen, leicht konischen Hohlkörpern aus Kunststoff oder Glas (Flaschen, Kartuschen, Spritzen, Stifte etc.)

Leistungen:

Mechanische oder optische Boden- oder Seitenpasserung links- oder rechtsdrehend

Siebfeineinstellung (längs, quer, rotativ, Höhe)  
Mechanische Rakelsteuerung (inkl. „no article – no print“), bei allen Geschwindigkeiten präzise  
Rakelkraft je Druckwerk bei laufender Maschine pneumatisch einstellbar  
Rakelwinkel stufenlos einstellbar  
Flutrakel  
Vorbehandlung per Flamme, Corona oder Entstatisierung  
Schnelltaktende, übersichtliche Linearmaschine mit Prismenkette  
Artikelabhängig bis 200 Artikel/min bei Doppelnutzenversion  
Modular erweiterbar  
Zentralverstellung für Artikellängen  
Schnellwechsel für Prismen  
Aufnahmen werden für hohe Geschwindigkeiten und Zuverlässigkeit mechanisch kurvengesteuert geöffnet und geschlossen  
Über Touchscreens intuitiv bedienbar  
Stufenlose Geschwindigkeitsregelung mit Schnellstart und -stopp  
Weitere Optionen:  
Gleichzeitig Mantel- und Halsdruck (zylindrisch oder konisch) in einer Druckstation  
Doppelnutzen mit Umschaltung auf Einfachnutzen  
Direkte bzw. indirekte Siebheizung  
Bis 200 mm Artikeldurchmesser bei begrenzter Drucklänge  
Druckbildkontrolle  
Heißlufttrockner  
Maschinendurchlaufrichtung wählbar  
Mehrbahnige Ausführung  
Artikellängen über 350 mm  
Technische Daten:  
Version I K9 V:  
Druckstationen: bis max. sechs in einer Anlage  
Einsatzmöglichkeiten: max. 6-farbige Druckbilder bzw. bei Doppelnutzen simultane Bedruckung von zwei Artikeln mit je 3-farbigen Druckbildern

Artikel-Ø: ca. 8 - 70 mm  
Artikel-Länge: ca. 40 - 280 mm  
Druckleistung: je nach Artikel und Dekor bis ca. 7.200 Stück/h bei Einzel- und ca. 12.000 Stück/h bei Doppelnutzen  
Version II K9 V:  
Druckstationen: bis max. sechs in einer Anlage  
Einsatzmöglichkeiten: max. 6-farbige Druckbilder bzw. bei Doppelnutzen die simultane Bedruckung von zwei Artikeln mit je 3-farbigen Druckbildern  
Artikel-Ø: ca. 30 - 100 mm  
Artikel-Länge: ca. 40 - 350 mm  
Druckleistung: je nach Artikel und Dekor bis ca. 6.600 Stück/h bei Einzel- und ca. 600 Stück/h bei Doppelnutzen  
Version III K9 V:  
Druckstationen: bis max. sechs in einer Anlage  
Einsatzmöglichkeiten: max. 6-farbige Druckbilder  
Artikel-Ø: ca. 30 - 120 mm  
Artikel-Länge: ca. 40 - 350 mm  
Druckleistung: je nach Artikel und Dekor bis ca. 5.900 Stück/h bei Einzelnutzen

## KATSAN KIMYA SAN. VE TIC. LTD. STI.



Address	SASMAZ SITESI CEMAL BEY IS HANI KAT, :5 34742 ISTANBUL Turkey
Phone	+90 216 3800989
Fax	+90 216 3801049
Internet address	www.katsankimya.com.tr
E-Mail	katsan@katsankimya.com.tr
Stand	Hall 17, A66 (Page 656)

### Product Overview

KATSAN KIMYA SAN. VE TIC. LTD. STI.

glasstec.02.11.04 Sealants

### Product Details

KATSAN KIMYA SAN. VE TIC. LTD. STI.

glasstec.02.11.04 Sealants

#### KATPLAST

KATPLAST 400 (2K POLYSULPHIDE BASE SEALANT)

KATPLAST 399 (2K POLYSULPHIDE BASE SEALANT)

KATPLAST 350 (HOTMELT BUTYL)

KATPLAST 300 (PIB BUTYL)

KATPLAST 580 (MOLECULAR SIEVE)

MOLPLAST (DESICCANT)

MS 501 (MS SEALANT)

## Keraglass Engineering S.r.l.

Address	Via Sassogattone, 7/B 42031 Baiso / RE Italy
Phone	+39 0522 993027
Fax	+39 0522 993030
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E-Mail	info@keraglass.com
Stand	Hall 16, D60 (Page 652)

### Product Overview

Keraglass Engineering S.r.l.

glasstec.01.03.02 Drying technology

glasstec.01.09.05 Pre-heating furnaces

glasstec.02.03.08.01.01 Screen printing techniques

glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

### Product Details

Keraglass Engineering S.r.l.

glasstec.02.03.08.01.01 Screen printing techniques

#### Roller glazing machine

Roller glazing machine for flat glass panes of any shape. This machine can apply a wide range of glazes (hot, cold, water-based glazes, etc.) and any possible effect can be achieved: satin finish (acidulated effect), double satin finish, masking, etc. with any colour available on the market to meet any modern requirement in the furnishing and archi-



ture fields. Each motor is electronically controlled through the operator panel so that the operator can adjust the machine with an accuracy up to 0.1mm making it possible to glaze glasses with any type of effect. The machine is made up of stainless steel and the technical solutions adopted ensure a quick colour change and an easy machine adjustment depending on the different types of glaze used.

### silk-screen printing

Fully automated machine for the silk-screen printing of glass panes. The machine prints any pattern on a screen on the glass surface in a wide range of formats suitable for any application field: from household appliances to furnishing, from shower cubicles to architecture, with large panes as well. By adopting high-tech solutions, a printing accuracy up to a tenth of a millimetre can be achieved thus guaranteeing a maximum pattern repeatability. Moreover, the printing system ensures production values up to 12 pieces per minute or the simultaneous printing of 2 glasses. The pattern change is carried out in 15 minutes thus ensuring flexibility also in case of small production lots.



## Klöpper Maschinenteknik GmbH & Co. KG



Address	Niedersachsenweg 10 44143 Dortmund Germany
Phone	+49 231 5175-0
Fax	+49 231 5175-195
Internet address	www.kloeppe.de
E-Mail	maschinenteknik@kloeppe.de
Stand	Hall 15, A39 (Page 648)

### Product Overview

Klöpper Maschinenteknik GmbH & Co. KG

glasstec.02.06.03	Mirror coating equipment
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.02.09.03	Foil treating technology (storing, climate, uncoiling)
glasstec.02.10.01	Washing machines and equipment
glasstec.02.10.02	Brushing, high-pressure and ultrasonic systems

### Product Details

Klöpper Maschinenteknik GmbH & Co. KG

glasstec.02.06.03	Mirror coating equipment
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### Parabolic Solar Mirrors

KLÖPPER Maschinenteknik has been the first choice for mirror coating plants for decades. Based on this know-how, our specialists successfully developed manufacturing concepts for parabolic mirrors used in solar trough power plants. In this context, the cleaning and polishing zone were exactly matched to the new requirements. An optimized application of chemicals ensures a particularly even metallic coating and high reflection properties. Newly conceived transport systems ensure the safe handling of glass panes in the plant and strainless drying of the applied backing paint.



glasstec.02.09.02.01 Laminated glass technology with foil for architectural glass

#### Fully automated PVB-laying and trimming

KLÖPPER Maschinentechnik developed fully automated solutions for positioning and also for laying and subsequent trimming of films solving our customers a great number of problems that can arise during manual manufacturing. The film dispenser quickly and reliably positions the film. The assembler safely produces the sandwich at a constant cycle time. The film is then exactly trimmed and at an adjustable distance to the glass edge. Minimum trimming forces always ensure constant results.

glasstec.02.10.01 Washing machines and equipment

#### Washing machines

KLÖPPER Maschinentechnik offers horizontally and vertically operating washing machines for any size of flat glass. First class cleaning and subsequent drying results are a matter of course for us. All plants may also be designed for coated glass. Special brushes in our machines ensure that the delicate surfaces are thoroughly cleaned without being damaged.

Our delivery range also includes special washing machines for curved panes.

### KREISEL GmbH & Co. KG



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Phone	+49 35771 98-0
Fax	+49 35771 60798
Internet address	www.kreisel.eu
E-Mail	info@kreisel.eu
Stand	Hall 13, C06 (Page 640)

#### Product Overview

KREISEL GmbH & Co. KG

glasstec.01.03.03	Metering and weighing technology
glasstec.01.03.04	Mixing technology
glasstec.01.03.10	Ventilation systems
glasstec.01.04.06	Regenerative systems
glasstec.01.04.07	Recuperative systems
glasstec.01.13.03	Conveying, sorting and storage facilities
glasstec.01.13.09	Parts for conveying, transport, packing and warehouse technology
glasstec.02.12.04	Purification of exhaust gases
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)

#### Product Details

KREISEL GmbH & Co. KG

glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
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#### Recuperators

Type K radiation recuperators are especially designed for the glass and ceramic industry (for the use behind glass melting tubs or similar purposes) for the generation of optimum combustion air temperatures. Those types of Recuperators are used in various sizes and designs in many companies of the glass and ceramic industry, metallurgy and in other industries. The robust design of the recuperators and the object-related design guarantee for:



high reliability economic efficiency long life time optimum pre-heating in confined spaces

The Type K radiation recuperator can be delivered as one-step or two-step version. It has mainly been developed for the glass industry and is predominantly used on recuperatively heated glass melting tubs. Owing to a special kind of ribs of the inner tubes, this type guarantees for efficient thermal transfer as well as great safety against thermal and mechanical overstraining.

The recuperator is insulated against radiation of heat and can also be used in other industries after consultation with us.

#### Technical Description

The recuperator consists of an inner tube which is flown through by exhaust gas. The air streams in a circular orifice between the inner tube and a concentrically arranged air jacket. The inner tube is plain on the exhaust gas side. On the air side, the inner tube is furnished with ribs in order to achieve a great effect at the air-sided thermal transfer. Various types are possible in interdependence of the installation conditions and the technological parameters, such as the one-step or two-step version.

### KSL staubtechnik gmbh

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Phone	+49 9072 9500-0
Fax	+49 9072 9500-50
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E-Mail	info@ksl-staubtechnik.de
Stand	Hall 15, E22 (Page 648)

#### Product Overview

KSL staubtechnik gmbh

glasstec.02.11.08.07 Other chemicals

#### Product Details

KSL staubtechnik gmbh

glasstec.02.11.08.07 Other chemicals

#### Separating powder for glass

eskal - is made of natural calcium carbonate with excellent particle size distribution. This product established within short time in the LSG-bending process of automotive glass. esstar plus -is a pure native product, made of starch. Because of its round and soft particles it is, among other, excellently suitable for the application in the mirror production. esplas - is a series of powders, based on polyethylene (PE) and polymethyl methacrylate (PMMA). These powders are available in different grades in pure or with boric or adipic acid to protect against staining.



## Kuraray Europe GmbH, Division TROSIFOL



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Stand	Hall 10, E36 (Page 628)

### Company News

Kuraray Europe GmbH, Division TROSIFOL

#### 09/21/2010 **SOLAR CELLS ON FAÇADES Reliable protection on façades**

PVB films for solar modules – Façade-integrated photovoltaics or “Building-integrated photovoltaics” (BIPV) making use of thin-film technology facilitate the efficient use of the building envelope, enabling it to generate electricity. However, very few solar modules can make do without reliable and lasting protection from external influences, particularly when attached to façades. Polyvinyl butyral (PVB), a film that has been better known until now for its use in laminated safety glass, is now attracting attention.

The market segment for solar modules integrated in façades or used as solar glass roof elements is steadily growing. Its market share is currently at less than 1 per cent of module installations, as many systems are still very costly and building connection technology is still underdeveloped and not sufficiently standardized.

On PV modules, the solar cells have to be protected from external influences. Encapsulation consisting of transparent plastics is making a huge contribution here to the durability of photovoltaic modules and to long-term power generation from sunlight. This applies particularly to building façades. With BIPV systems, it is not only possible to generate electricity and reduce CO<sub>2</sub>, but also to (at least

partly) refinance the façade by feeding the electricity into the grid.

These building-integrated PV systems are becoming increasingly attractive and efficient. They represent a good combination of efficient surface use and aesthetics. A big help here has been the further development of PV modules making use of thin-film technology. Of great importance here is polyvinyl butyral (PVB), a film that has so far been better known for its use in laminated safety glass. A fine example is the New York Stillwell Avenue subway station, which has the world’s largest integrated PV installation with thin-film modules, equipped with TROSIFOL PVB films.

The first manufacturer worldwide to develop a special PVB film for use in solar modules was Kuraray Europe GmbH under the brand name of TROSIFOL, as the company reports.

Since the beginning of the Eighties, solar modules with TROSIFOL PVB films have been undergoing successful outdoor weathering tests on module test stands of Berlin’s Photovoltaic Institute and the Fraunhofer ISE in Freiburg, among others. Designed for all conventional PV module production processes, Kuraray introduced at the end of 2009 a second and technically improved generation of films that supplements the current range of films in special fields of application.

#### Trend towards PVB

Since 2005, there have been moves in the PV and glass industry to introduce PVB film as the encapsulation material of double-glazing elements with integrated solar cells. The aim is to significantly improve the safety standards of laminated module glass of building-integrated photovoltaics (BIPV).

Furthermore, thin-film solar modules comprising two panes of glass with a PVB interlayer can be inexpensively produced with the two-stage lamination process familiar from laminated safety glass.

With the now appreciable and steadily growing demand for thin-film solar modules – forecasts anticipate 40 per cent of total module output by 2020 – the use of PVB film will continue to increase and claim a growing share of the market.

The reasons for the low market shares of other plastics include the lack of experience with these products in the solar industry, their in some cases inferior technical properties and their excessively high cost. In addition, these materials have to reliably demonstrate a service life of 20 to 25 years in solar modules.

#### High safety standards

Building-integrated photovoltaics, particularly in Europe, are subject to the same high safety standards as all other glazing on façades and in overhead glazing applications.



For overhead applications in Germany, the list of standards and specifications for the construction industry calls for an interlayer of PVB. When these elements are replaced with solar modules, these standards and specifications remain unchanged. This means that EVA and other plastics in PV modules have to overcome a number of regulatory hurdles in such applications. For building-integrated photovoltaics, experts are expecting strong growth in commercial use over the next ten years.

The author Dr. Bernhard Kroll is employed in Technical Marketing at Kuraray Europe GmbH in the TROSIFOL Division. [www.trosifol.com](http://www.trosifol.com)

Photos: Same high standards of safety Façade-integrated PV systems are subject to the same safety standards as all other glazing on façades or in overhead applications.

July 13, 2010

We look forward to seeing you at the “glasstec 2010” in Düsseldorf: Hall 10, stand E36.

TROSIFOL® is one of the leading manufacturers of PVB film for laminated safety glass worldwide. TROSIFOL products are mainly used in applications for automotive and architectural glazing, special TROSIFOL films are used to encapsulate solar cells with long term durability in the photovoltaic industry (PV). In 2004 TROSIFOL was the first manufacturer worldwide to develop a special product line for PV applications based on polyvinyl butyral (PVB). Since then, module manufacturers have had a choice between module production in vacuum laminator or in the process with vacuum deairing and subsequent lamination in autoclaves. All major companies of the glass and the photovoltaic industry are part of TROSIFOL's customer base. The background material for all TROSIFOL films is Polyvinyl Butyral (PVB) that has been used as an interlayer in laminated safety glass since the middle of the thirties of the 20. century. The experience gained from the processing of this material since 1953, thanks to ongoing research and development, is one of the main reasons for technical leadership of TROSIFOL as a manufacturer of films for structural glazing and TROSIFOL's worldwide success. TROSIFOL operates its headquarters in Troisdorf, near Cologne (Germany) and an additional plant in Nishny Novgorod, Russia, both certified to ISO/TS 16949 and DIN EN ISO 9001:2000 standards. There are marketing subsidiaries in the United States, Malaysia, India, China and Ukraine.

Today TROSIFOL is a Division of Japan based chemical group Kuraray Co. Ltd (Tokyo) which is the world's leading producer of polyvinyl alcohols (PVA), one of the initial products for polyvinyl butyral resins and raw material for TROSIFOL PVB film. Founded in 1926, the Kuraray Group with headquarters in Tokyo, Japan, is the world's biggest producer of water-soluble synthetic polyvinyl alcohols. In Europe, operating business, sales and production of chemical spe-

cialties are handled by EVAL Europe in Antwerp, Belgium and Kuraray Europe GmbH in Frankfurt (Germany). PVA is e.g. a crucial chemical product for the production of paper, textiles as well as for paints, printing inks, adhesives and ceramics. Kuraray Europe GmbH has installed an integrated management system that satisfies the requirements of a quality management system conforming to DIN EN ISO 9001:2000 with the supplementary demands of the automotive industry ISO/TS 16949, an environmental management system conforming to DIN EN ISO 14001:2005 and an occupational safety and health management system conforming to BS OHSAS (Occupational Health and Safety Assessment Series) 18001:2007. This is externally monitored by annual certification.

This text comprises 4,332 characters. You can also download the text from the Internet at: <http://www.trosifol.com>

Please find pictures at the following address (captures are saved in the IPTC data): <http://gallery.me.com/rainer.hardtke-100540>

Pictures of architectural and automotive applications can be downloaded at this address: <http://gallery.me.com/rainer.hardtke-100548>

Press contact: Jörg Theesfeld, Head of Business Development & Marketing Kuraray Europe GmbH, Division TROSIFOL, Mülheimer Strasse 26, D-53840 Troisdorf, Germany Phone +49 (0) 22 41 / 2555-202 Fax +49 (0) 22 41 / 2555-299 E-Mail [trosifol@kuraray.eu](mailto:trosifol@kuraray.eu)

**09/21/2010**      **TROSIFOL highlights at glasstec 2010**  
**A self-luminous film, an improved acoustic product**  
**and photovoltaic applications for BIPV**

LUMINEO TROSIFOL is launching another new, revolutionary product on the market. A self-luminous PVB film by the name of LUMINEO, the new film achieves its effect with a special formulation (European patent pending). Developed to European standards for safety glass, it can be combined with other TROSIFOL films to modify the optical and acoustic properties. LUMINEO reduces the need to install additional light sources in public areas for emergency situations, e.g. power failures. LUMINEO meets the criteria of the German Lists of Construction Products “Deutsche Bauregellisten” of the DIBt (German Institute of Construction Technology). At the fair stand in Düsseldorf, it will be the main attraction and, in a small LUMINEO environment, visitors will have the opportunity to gain first-hand experience of the product.

Improved sound insulation with TROSIFOL SOUND CONTROL (SC+) After years of success with its SOUND CONTROL (SC) film, TROSIFOL is also presenting an improved product at this year's glasstec. This is a multi-layer film that surpasses the accustomed high standards of safety and outstanding sound pro-

tection properties of the existing TROSIFOL SC film. The new film has been specially developed for the production of jumbo-size high-performance laminated safety glass with a width of 3.21 m. It is precisely here that the new SC+ film is employed to best effect by measurably improving efficiency in production.

In addition, depending on the structure of the associated ISO glazing, sound insulation values of up to 50 dB can be achieved. It goes without saying that the new film can be combined with other PVB films from the TROSIFOL range.

BIPV with TROSIFOL SOLAR TROSIFOL is staying busy in the fast-growing photovoltaic market and, more specifically, in the BIPV sector. Building-Integrated Photovoltaics covers the whole spectrum of solar power generation on façades. Encapsulation materials made of transparent plastics make an important contribution to the longevity of photovoltaic modules and to the long-term production of electricity from sunlight. These BIPV systems are becoming increasingly attractive and cost-effective each year and sensibly combine efficient surface use and aesthetics.

The world's first manufacturer to develop a special PVB film for use in solar modules was Kuraray Europe GmbH under the TROSIFOL brand name. Since the Eighties, solar modules with TROSIFOL PVB films have been undergoing successful outdoor weathering tests on module test stands, inter alia at the Berlin Photovoltaics Institute and the Fraunhofer ISE Institute in Freiburg. Designed for all conventional photovoltaic module production processes, a second and technically improved generation of films was presented by Kuraray at the PV Conference 2009 in Hamburg at the end of last year. This new film generation extends the current product range into special fields of application and is now being presented in Düsseldorf to the glass industry. 25th August 2010

We look forward to your visit during glasstec 2010 in Düsseldorf: Hall 10, Stand E36.

Please also visit TROSIFOL at the special "glass technology live" show in Hall 11, Stand 11B26.

This text comprises 3,085 characters. You can also download the text and the associated images from the Internet at: [www.trosifol.com](http://www.trosifol.com)

You can download matching LUMINEO images at this address (captions/photographer are stored in the IPTC data, all images from Kuraray Europe GmbH, Division TROSIFOL): <http://gallery.me.com/rainer.hardtke> - 100689 The images present daytime views of the product and the matching night-time views with the LUMINEO effect.

You can download images of TROSIFOL architectural applications at: <http://gallery.me.com/rainer.hardtke> - 100548

And images of TROSIFOL SOLAR can be found here: <http://gallery.me.com/rainer.hardtke>

- 100540

Press contact: Jörg Theesfeld, Head of Business Development & Marketing Kuraray Europe GmbH, Division TROSIFOL, Mülheimer Strasse 26, 53840 Troisdorf, Germany Phone +49 (0) 22 41 / 2555 202 Fax +49 (0) 22 41 / 2555 299 E-mail: [trosifol@kuraray.eu](mailto:trosifol@kuraray.eu)

Product Overview		Kuraray Europe GmbH, Division TROSIFOL
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass	
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass	
glasstec.03.02.02.01	Laminated safety glass	
glasstec.03.02.02.04	Laminated glass (other)	
glasstec.03.02.04.02	Noise absorbing glass	
glasstec.03.02.11	Optical glass	
glasstec.03.03	Automotive glass	
glasstec.03.04.01.01.01	Cristallyne PV panels	
glasstec.03.04.01.01.02	Thin film PV panels	
glasstec.03.04.03	Solar architecture and building integrated photovoltaics	
glasstec.21.01	glass technology live	

## Kurt Merker GmbH

Address	Elsterstr. 6 93309 Kelheim Germany
Phone	+49 9441 3355
Fax	+49 9441 12815
Internet address	www.merker-kmk.com
E-Mail	info@merker-kmk.com
Stand	Hall 09, E30 (Page 626)

### Product Overview

Kurt Merker GmbH

glasstec.01.06.17	Aids for the forming of hollow glass
glasstec.02.01.02	Glass saws
glasstec.02.01.05	Sawing machines and rim polishing machines
glasstec.02.02	Drilling technology
glasstec.02.03.02.01	Decorative grinding technology for hollow glass
glasstec.02.03.02.02	Surface grinding for moulded glass
glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies

glasstec.02.03.05	Polishing technology
glasstec.02.11.01	Tools
glasstec.02.11.08.02	Chemical grinding and polishing materials
glasstec.03.10.03.01.01	Grinding technology
glasstec.03.10.03.01.02	Grinding and polishing materials
glasstec.03.10.03.01.03	Blasting technology
glasstec.03.10.03.02.13	Creative glass products (glass art)
glasstec.04.01.03	Tools and smelting equipment for glass makers
glasstec.04.02	Cutting, grinding and drilling tools
glasstec.07.02	Specialised Publishers
glasstec.21.02	Special offers for glass trade / crafts

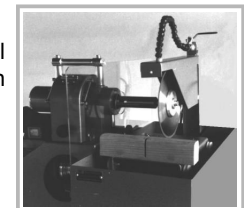
### Product Details

Kurt Merker GmbH

glasstec.02.01.02	Glass saws
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#### Glass saws

Cut-off machines in different sizes, also available small to be attached to engraving lathe KMK 1 as shown on photo



glasstec.02.01.05

Sawing machines and rim polishing machines

#### Internal beveller

for rubber cone holders with siliconcarbide-grinding cones and cork-polishing cones for bevelling of mouth rims. Internal- and External beveller also available For rubber cone holders in 9 sizes



glasstec.02.02

Drilling technology

#### Drilling technology

Drilling and stoppering machines, diamond hollow ware drills, diamond stoppering tools (cones: see scetch / sockets)



glasstec.02.03.02.01

Decorative grinding technology for hollow glass

#### Engraving lathe KMK 1

A portable complete unit ready to plug in for permanent work in studio or when travelling. For engraving with diamond- or stone- and polishing wheels, copper wheels. Shaft with tapered bore MK 1.5 with 7-step round belt pulley for 540 - 3,360 rpm with built-in single phase motor 0.25 kW, 240 volts 50 ccs (other voltage/cycles on request) ready for engraving, with splash guard, funnel, tub, armrests, steel spindle with tapered thread medium, ejector. Total weight 25 kgs.

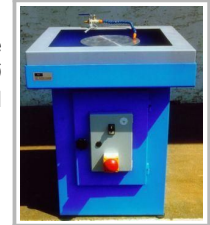


glasstec.02.03.02.02

Surface grinding for moulded glass

#### Flat grinder and polisher

Steelbox approx. 900 mm height with water tray, triphase motor, in three formats with plate 300 or 400 or 600 mm Ø for the work with diamond-magnetic-discs for cutting and prepolishing and magnetic-discs for polishing.

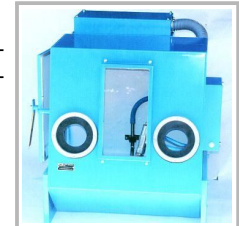


glasstec.02.03.03

Matting/Supercalendering/etching/sand blasting technologies

#### Sandblaster KMK S1

sandblasting cabinets, marking machine, blasting media, masking paper, rubber sandblasting masks for logos



glasstec.02.03.05

Polishing technology

#### polishing wheels and powders

poplar wood wheels, cork wheels, brush wheels, polyurethane wheels, horsehair buffs, felt wheels pumice powder, tripoli polishing powder, cerium oxide

glasstec.02.11.01

Tools

#### Tools for glass

blowing irons, punty irons, yokes, blow iron roller, wooden blocks, mechanical boy, blowing moulds, optical moulds, mould dope, straight shears, handle shears, jacks, pincers, ladles, heat mitten, gathering irons, calipers, strain viewers



glasstec.02.11.08.02

Chemical grinding and polishing materials

#### Grinding and polishing agents

silicon carbide grit, corundum grit (aluminium oxide), pumice powder, tripoli polishing powder, cerium oxide polishing powder

## KÖMMERLING CHEMISCHE FABRIK GMBH



Address	Zweibrücker Str. 200 66954 Pirmasens Germany
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E-Mail	info@koe-chemie.de
Stand	Hall 17, C22 (Page 656)

### Company News

KÖMMERLING CHEMISCHE FABRIK GMBH

#### 07/15/2010 **KOEMMERLING to exhibit full range of market leading products at Glasstec • Stand C22, Hall 17**

KOEMMERLING CHEMISCHE FABRIK GMBH will be represented on stand No C22, Hall 17 at the forthcoming Glasstec exhibition taking place in Dusseldorf from 28th September to 1st October, 2010. Over recent years Kommerling has diversified its product range and this is reflected in the range of products that will be on show this year.

KOEMMERLING now does far more than just provide sealant for double glazed units. The company's recent expansion of its range to include products for both IG units and solar and photovoltaic installations are an indicator of how it has responded to the environmental concerns of the industry. At the same time it has continued to develop new solutions for the construction industry, namely structural glazing, which have embraced the latest approaches to architectural design and building technology.

Other products on the stand will include solutions for both warm-edge and direct glazing applications. In addition key members of the research and development team will be on hand to discuss any technical problems and how they see the market developing.

### Product Overview

KÖMMERLING CHEMISCHE FABRIK GMBH

glasstec.02.08.06	Sealing techniques
glasstec.02.09.02.03	Laminated glass technology with adhesives, casting resin and laminate
glasstec.02.11.04	Sealants
glasstec.02.11.05	Spacers
glasstec.03.02.02.03	Casting resin combinations
glasstec.03.02.03	Insulating glass
glasstec.03.04.01.01.01	Cristallyne PV panels
glasstec.03.04.01.01.02	Thin film PV panels
glasstec.03.04.01.02	PV system components
glasstec.03.04.02.01	Collectors
glasstec.03.04.02.02	Solar mirrors
glasstec.03.04.02.03	Other solar thermal system components
glasstec.03.07.02.02	Structural-sealant-glazing facades
glasstec.03.07.04.01	Photovoltaic systems
glasstec.03.07.04.02	Solar thermal system
glasstec.03.07.09.12	Window constructions (general)

glasstec.03.10.01.04.01 Sealants and adhesives

glasstec.03.10.01.07 Sealants, adhesives and insulation materials.

glasstec.03.13.01.03 Parting walls in glass

glasstec.04.10 Adhesive technology

#### Product Details

KÖMMERLING CHEMISCHE FABRIK GMBH

glasstec.02.09.02.03 Laminated glass technology with adhesives, casting resin and laminate

#### Ködiguard AHV

Low viscosity acrylate resins for fast and efficient filling, absolutely transparent, excellent UV-resistance – 3-component, curing at room temperature – Good safety characteristics – Suitable for ornamental, toughened and patterned glass – High UV-transmission levels

#### Ködiguard UV

Low viscosity acrylate resins for fast and efficient filling, absolutely transparent, excellent UV-resistance – Single part, UV-curing – Combination of safety and noise attenuation characteristics – Good noise attenuation values



#### Ködiguard S 696 M

Low viscosity acrylate resins for fast and efficient filling, absolutely transparent, excellent UV-resistance – 3-component, curing at room temperature – Good safety characteristics – Suitable for ornamental, toughened and patterned glass – UV blocking

#### Ködiguard UV-HS

Low viscosity acrylate resins for fast and efficient filling, absolutely transparent, excellent UV-resistance – Single part, UV-curing – Combination of safety and noise attenuation characteristics – Good noise attenuation values

#### Ködiphone UV

Low viscosity acrylate resins for fast and efficient filling, absolutely transparent, excellent UV-resistance – Single part, UV curing – Very high noise attenuation

#### Ködiphone S 700 M

Low viscosity acrylate resins for fast and efficient filling, absolutely transparent, excellent UV-resistance – 3-component, curing at room temperature – Suitable for ornamental, toughened and patterned glass – UV blocking – Very high noise attenuation

#### Ködiphone SLV

Low viscosity acrylate resins for fast and efficient filling, absolutely transparent, excellent UV-resistance – 3-component, curing at room temperature – High UV-transmission level – Suitable for ornamental, toughened and patterned glass – Also available in white opaque

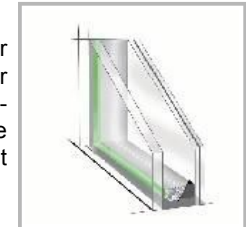
#### Ködiphone UVS

Low viscosity acrylate resins for fast and efficient filling, absolutely transparent, excellent UV-resistance – 3-component, curing at room temperature – Suitable for ornamental, toughened and patterned glass – UV blocking

glasstec.02.11.04 Sealants

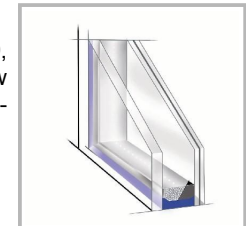
#### GD 115

Thermoplastic synthetic rubber -very low water vapour transmission rate - good adhesion to glass and spacer - even and uniform consistency - good application behaviour on all popular butyl extruders - also available in pre-extruded round cord form - useful aid to IG-unit assembly



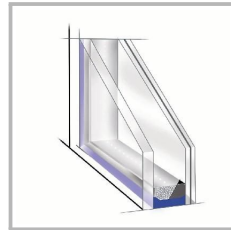
#### GD 116

2-component polysulfide sealant - tested to prEN 1279, part 2+3 - very good processing characteristics - low water vapour transmission rate - low gas permeability - very good adhesion behaviour



### GD 677

2-component polyurethane sealant - tested to prEN 1279, part 2+3 - very good adhesion to glass, aluminium and steel - high strength and elasticity - low water vapour transmission rate - good processing characteristics



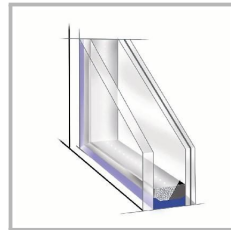
### GD 823 N

1-component silicone sealant for exposed edges (greenhouses and conservatories) - tested to prEN 1279, part 2 - excellent weathering and UV-resistance - non-sag - solvent-free - easy to process



### Isomelt

Solvent-free hotmelt butyl sealant for the production of insulating glass - tested to prEN 1279, part 2+3 - very low water vapour transmission rate - quick melting in tank or drum melting units - processing temperature range from 170°-180°C - no loss of material, no waste - no rinsing or cleaning material



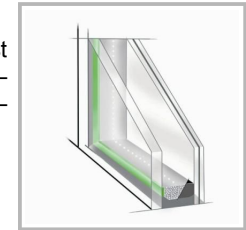
### Ködimelt TPS

Thermoplastic spacer with its own integrated desiccant, replaces spacer profiles, primary sealant and molecular sieve - tested to prEN 1279, part 2+3 - efficient production - fast adhesion to glass - very low water vapour and gas permeability - high elasticity - all-round closed seal - compatible manufacture of laminated cast resin panes - individual shapes - cavity range from 6 mm to 20 mm



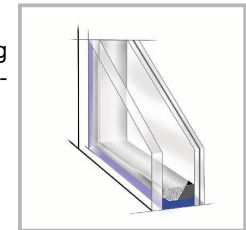
### Naftotherm BU-S

Thermoplastischer Synthesekautschuk – Äußerst geringe Wasserdampfdiffusion und Gaspermeation – Gute Hafteigenschaften auf Glas und Abstandhaltern – Auch als vorextrudierte Rundschnur erhältlich



### Naftotherm M 82

- tested to prEN 1279, part 2+3 - very good processing characteristics - low water vapour transmission rate - low gas permeability - very good adhesion behaviour



### L.M. S.r.l.

Address	Via Sartirana, 42 27020 Valle Lomellina / PV Italy
Phone	+39 0384 797852
Fax	+39 0384 758842
Internet address	www.lmsrl.it
E-Mail	info@lmsrl.com
Stand	Hall 15, G54 (Page 648)

### Product Overview

L.M. S.r.l.

glasstec.02.03.01.01 Grinding techniques for straight edges

glasstec.21.03 Special offers for architects

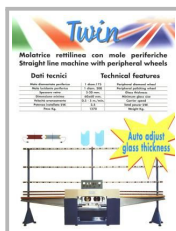
### Product Details

L.M. S.r.l.

glasstec.02.03.01.01 Grinding techniques for straight edges

#### Straight line machine with peripheral wheels

Auto adjust glass thickness



### Landglass Technology Co., Ltd.

Address	Guangjian Building, No 12 471000 Luoyang China (Rep.)
Phone	+86 379 65298895
Fax	+86 379 63910869
Internet address	<a href="http://www.landglass.net">www.landglass.net</a>
E-Mail	<a href="mailto:oceanzhao@landglass.com">oceanzhao@landglass.com</a>
Stand	Hall 12, D51 (Page 636)

### Product Overview

Landglass Technology Co., Ltd.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

### Product Details

Landglass Technology Co., Ltd.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

#### LD-A Series

LD-A series flat glass tempering furnaces can be used to process mainly flat tempered glass such as Low-E glass, coated glass, patterned glass, in various sizes for architectural curtain wall, door & window, partition wall, show-case, etc.

### LASEA

Address	Liege Science Park, Rue des Chasseurs 4031 Angleur Belgium
Phone	+32 4 3650243
Fax	+32 4 3843755
Internet address	<a href="http://www.lasea.be">www.lasea.be</a>
E-Mail	<a href="mailto:info@lasea.be">info@lasea.be</a>
Stand	Hall 14, E08 (Page 644)



**Product Overview**

LASEA

glasstec.02.05.03	Laser-removing technology
glasstec.02.05.02	Laser-marking technology
glasstec.03.03	Automotive glass
glasstec.02.05.01	Laser-isolating technology
glasstec.03.07.04.01	Photovoltaic systems

**Product Details**

LASEA

glasstec.02.05.03 Laser-removing technology

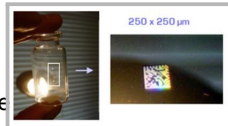
**Coating Removal on Glass & Films by Laser**



we supply turn-key machines to remove the coating applied on glass and films. The products are dedicated to the automotive and architectural glass sectors. The technology cover many applications such as : - automotive coated windscreen (coated glass or coated PET films) : coating removal by laser for Rain Sensor, Telepass window... - laser patterning of coated glass & films : creation invisible electrical insulation for heated coated windscreen. Creation of complex pattern for glass antenna, radar window... - Coating removal to avoid corrosion on glass edges.

glasstec.02.05.02 Laser-marking technology

**Anticounterfeiting systems**

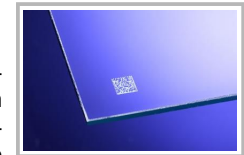


Naginels - Non Aggressive Internal ENgraving Laser Systems The world's most accurate, non-aggressive and fast production method to subsurface engrave minute data matrixes that can be machine read on production lines or in the marketplace => Provides the physical basis for a full track and trace method in the primary package that cannot be removed or altered. => Provides the solution to improve production efficiency as well as tamper-proof

marketplace verification and tracking.

Naginels is able to subsurface engrave a 0.5 x 0.5 mm 16 x 16 data matrix in well under one second. The accuracy and quality of this engraving is very high and using market available reading optics it is possible to read the data matrix on a production line. In the marketplace it is also possible to use a portable handheld reader to identify and read the subsurface engraved data matrix. This can then be linked to a brand owners logistics system enabling a full track and trace capabilities.

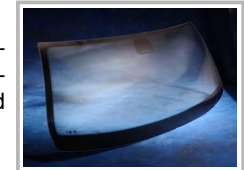
**Glass Traceability**



Dedicated to the glass industry (automotive, architectural, containers) we have developed a global solution of glass laser marking associated with reading technologies and integrated network interface to trace the product during its manufacturing process and delivery.

glasstec.02.05.01 Laser-isolating technology

**Laser patterning of coated glass & films**



Through a concentrated R&D effort, LASEA has developed industrial process for laser patterning of conductive coatings on a variety of substrate materials and sizes (flat glass, curved glass, PET film...)

## Lema S.r.l.



Address	Via Ermete Zacconi, 5/A 43122 Parma Italy
Phone	+39 0521 780749
Fax	+39 0521 272824
Internet address	www.lemaparma.it
E-Mail	lema.parma@libero.it
Stand	Hall 11, D82 (Page 632)

### Product Overview

Lema S.r.l.

glasstec.02.09.01.02 Furnaces for chemical pre-tempering of glass

### Product Details

Lema S.r.l.

glasstec.02.09.01.02 Furnaces for chemical pre-tempering of glass

### TC 9501

For the chemical tempering of glass sheets measuring up to 3,200 x 2,200mm, Lema, a leader in the field, has developed the TC 9501. The new furnace, fruit of the long experience of the Parma-based company, which has been active in the small and medium-sized plant sector since 1970, meets the needs of an increasing market and is particularly suitable for:



thin glass (from 1mm);

printed glass;

glass with complex shapes (in glass furniture, for example);

glass in which optical quality must be maintained;

variable thickness glass. Chemically tempered glass is known to be at least two and a half times as strong as traditionally tempered glass, is five times as strong as untempered glass and can be ground, drilled and cut without any risk of breakage. The TC 9501 is flexible, easy to operate, and features a fully automatic tempering cycle.

## Leybold Optics GmbH



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Fax	+49 6023 500-150
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E-Mail	info@leyboldoptics.com
Stand	Hall 12, F50 (Page 636)

### Product Overview

Leybold Optics GmbH

glasstec.02.06.01 Vacuum coating equipment

### Product Details

Leybold Optics GmbH

glasstec.02.06.01 Vacuum coating equipment

### Apollon

the PECVD system for highly efficient silicon thin-film solar cells production  
Meeting individual requirements

LEYBOLD OPTICS is associated with intelligent solutions for the vacuum industry. The company has made it a rule to supply high-quality systems that guarantee perfect coating results with unequalled process stability. LEYBOLD

OPTICS' business unit 'Solar' has developed an economical production system for the manufacture of thin-film solar cells. But LEYBOLD OPTICS stands for more: e.g. landmark solutions thanks to customized processes.

Thin-film cells of maximum efficiency PHOEBUS is LEYBOLD OPTICS' answer to the specific requirements for producing silicon thin-film solar cells on glass. This line cluster concept is designed for the best layer properties at high throughput.

Intelligent design, great economy With PHOEBUS up to six steps are necessary to make an a-Si/MuC Si-Tandem Solar Cell. During the entire process chain all substrates are kept at a constant vacuum and well-balanced temperature level. This enables PHOEBUS' plasma-enhanced chemical vapor deposition (PECVD) reactors to achieve a high degree of layer uniformity. PHOEBUS combines proven LEYBOLD OPTICS technology with the specific demands of the solar industry. The system is based on a vertical, carrier-free, linear cluster design. High process stability and a maximum of productivity are some of its key arguments. Its small footprint, a maintenance-friendly design, the globally available company support, and the possibilities for flexible extension, make PHOEBUS the choice of concept for future investments.

Clever ideas for low maintenance and high efficiency When the coating process is finished, PHOEBUS automatically cleans its PECVD process chambers. Plasma etching with a fluorine-containing gas helps to avoid high costs of maintenance. Very advanced operating software makes it possible to couple out a single process chamber from the production process while the remaining ones carry on as usual.

A sunrise industry with a sunny outlook A serious reduction in the production costs for solar cells appears to be imperative to sustain a growing market now and in the future. With its highly economical features PHOEBUS is a big stride into the right direction. Stay one step ahead - with LEYBOLD OPTICS.

Caption: Perfect coating results with unequalled process stability for producing thin-film solar cells

### **PHOEBUS**

the PECVD system for highly efficient silicon thin-film solar cells production

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Caption: Perfect coating results with unequalled process stability for producing thin-film solar cells

### **PHOEBUS**

the PECVD system for highly efficient silicon thin-film solar cells production

Meeting individual requirements

LEYBOLD OPTICS is associated with intelligent solutions for the vacuum industry. The company has made it a rule to supply high-quality systems that guarantee perfect coating results with unequalled process stability. LEYBOLD OPTICS' business unit 'Solar' has developed an economical production system for the manufacture of thin-film solar cells. But LEYBOLD OPTICS stands for more: e.g. landmark solutions thanks to customized processes.

Thin-film cells of maximum efficiency PHOEBUS is LEYBOLD OPTICS' answer to the specific requirements for producing silicon thin-film solar cells on glass.

This line cluster concept is designed for the best layer properties at high throughput.

Intelligent design, great economy With PHOEBUS up to six steps are necessary to make an a-Si/MuC Si-Tandem Solar Cell. During the entire process chain all substrates are kept at a constant vacuum and well-balanced temperature level. This enables PHOEBUS' plasma-enhanced chemical vapor deposition (PECVD) reactors to achieve a high degree of layer uniformity. PHOEBUS combines proven LEYBOLD OPTICS technology with the specific demands of the solar industry. The system is based on a vertical, carrier-free, linear cluster design. High process stability and a maximum of productivity are some of its key arguments. Its small footprint, a maintenance-friendly design, the globally available company support, and the possibilities for flexible extension, make PHOEBUS the choice of concept for future investments.

Clever ideas for low maintenance and high efficiency When the coating process is finished, PHOEBUS automatically cleans its PECVD process chambers. Plasma etching with a fluorine-containing gas helps to avoid high costs of maintenance. Very advanced operating software makes it possible to couple out a single process chamber from the production process while the remaining ones carry on as usual.

A sunrise industry with a sunny outlook A serious reduction in the production costs for solar cells appears to be imperative to sustain a growing market now and in the future. With its highly economical features PHOEBUS is a big stride into the right direction. Stay one step ahead - with LEYBOLD OPTICS.

Caption: Perfect coating results with unequalled process stability for producing thin-film solar cells

## Lincoln GmbH, Zentralschmiersysteme

Address	Heinrich-Hertz-Str. 2-8 69190 Walldorf Germany
Phone	+49 6227 33-0
Fax	+49 6227 33-259
Internet address	www.lincolnindustrial.de
E-Mail	lincoln@lincolnindustrial.de
Stand	Hall 13, D92 (Page 640)

### Company News

Lincoln GmbH, Zentralschmiersysteme

#### 09/17/2010 Fully Automated Lubrication Systems for Glass Production Machines

Lincoln is the world leading manufacturer of automated lubrication systems, lubrication tools and equipment. The comprehensive program includes automated lubrication systems for grease and oil, lubrication tools and service bay equipment for fluid handling – covering all demands for professional industrial lubrication.

Lincoln presents for the first time on Glasstec a new Single-line Lubrication System: Pumps 603S or 653S and QSL or SL lubricant injectors, suitable for high-pressure. The single-line system's design and layout is uncomplicated, making it easy to install, program and operate.

Lincoln's Multi-zone lubrication system offers an economical, resource conserving and environmental conscious solution for the glass industry. The Lincoln Multi-zone system differentiates between the low and high demand zones of the glass machine and supplies the amount of lubricant accordingly. As a result, the lubricant quantities are matched to the requirements of each lubrication point, and the amount is kept to a minimum

**Product Overview**

Lincoln GmbH, Zentralschmiersysteme

glasstec.01.02.03	Lubricators and coolants
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)

**Linshi Glass Machinery Co., Ltd.**

Address	The industry of Lunjiao, Shunde 528308 Foshan City, Guangdong Province China (Rep.)
Phone	+86 757 28607616
Fax	+86 757 28667718
Internet address	www.cnlinshi.com
E-Mail	root@cnlinshi.com
Stand	Hall 12, B57 (Page 636)

**Product Overview**

Linshi Glass Machinery Co., Ltd.

glasstec.02.03.01.01	Grinding techniques for straight edges
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**Product Details**

Linshi Glass Machinery Co., Ltd.

glasstec.02.03.01.01	Grinding techniques for straight edges
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**Model LSM2500 Glass Double Edging Machine**

This product is adopted for edging dual straight lines of plate glasses adopted cover stripe drive frequency motor speed adjustment control with steady stability. The polishing head seat in sliding utilizes dual line ball bearing guide rail transmitted by dual ball bearing lead screw



featured by steady and precious moving.PLC control: parameters setting is fulfilled in one time applied for volume processing of furniture glass and building glass.

**Linyi Young Sunrising Machinery Co., Ltd.**

Address	162-1, Jinqueshan Road 276000 Linyi City, Shandong Province China (Rep.)
Phone	+86 539 8169369
Fax	+86 539 8310851
Internet address	www.zgbljx.com
E-Mail	glassmachine@vip.163.com
Stand	Hall 13, E72-7 (Page 640)

**Product Overview**

Linyi Young Sunrising Machinery Co., Ltd.

glasstec.02.02	Drilling technology
glasstec.03.10.03.01.01	Grinding technology

**Product Details**

Linyi Young Sunrising Machinery Co., Ltd.

glasstec.02.02	Drilling technology
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**Model YZZT-Z1 Glass Drilling Machine**

Model YZZT-Z1 Glass Drilling Machine is a newly-designed product, it is specially designed for drilling glass. Its characteristic is processing small size glass; the height of working table is low and it is easy to operate. The upper and bottom aiguilles and chain transmission are combined artfully, which ensures the precision of processing.

The machine is high efficiency. It can be used for batch and streamlined production. It is the best machine for the glass processing production.

Main technical Parameter:

Drilling diameter □  $\Phi 4$ - $\Phi 30$ mm

Thickness of the glass □ 2mm-20mm

The distance between the drilling axis and column □ 170mm

Total power □ 0.74KW

Measurement □ 1200mm×680mm×680mm

Input voltage/ frequency □ -380V/50HZ

### Lovati Fratelli S.r.l.

Address	Via Galilei, 14 20090 Assago / MI Italy
Phone	+39 02 4880276
Fax	+39 02 4882196
Internet address	www.lovatifratelli.com
E-Mail	info@lovatif.com
Stand	Hall 16, D57 (Page 652)

### Product Overview

Lovati Fratelli S.r.l.

glasstec.02.02 Drilling technology

glasstec.02.03.01.02 Grinding techniques for patterned glass

glasstec.02.03.05 Polishing technology

### Product Details

Lovati Fratelli S.r.l.

glasstec.02.02

Drilling technology

#### Numerical control drilling machine

Numerical control drilling machine with one double head to perform holes and routings.

MISTRAL Series machines can be positioned in line with BEM Series grinding machine and/or double edging machine.

They can be used separately as drilling machines, too.

- Automatic adjustment of the rotating speed based on the tool diameter.
- Automatic tool change both for upper spindle and for lower spindle.
- Tool crib: 12 for upper spindle 12 for lower spindle

glasstec.02.03.01.02

Grinding techniques for patterned glass

#### BEM 31

Numerical control machine to grind and polish the edge on shaped glasses with internal curves, external curves, straightline sides, mitred corners.



BEM Series machines are particularly suitable for processing low-emissivity glasses as the surface of the coated glass sheet never comes into contact neither with suction pads, rollers, nor with transport belts.

A maximum of 3 wheels can be stacked on each tool-holder (for glass up to 12 mm thickness).

Tool crib with automatic selection for tool withdrawal and deposit.

Electronic measuring system of glass dimensions.

Bar code scanner to transfer data for the automatic selection of processing programme.

Different shapes and sizes of glasses can be worked in succession. The machine will automatically position and activate the suckers required to fix the glass.

- Fully automatic suckers positioning
- CAD-CAM software
- Teleassistance by modem
- Software for routing bit and diamond wheel oscillation during processing

- Software for the decoration of glass surfaces
- DXF software to import or export drawings from/to other systems
- Conic ISO40 tool-holders (BEM 63 and BEM 62: 20 items, BEM 42 and BEM 31: 15 items)

Upon request, BEM machines can be equipped with loading / unloading tilting tables.

### ZENEDGE 22/8

Numerical control machine to grind and polish the edge on shaped glasses with internal and external curves, straightline sides, mitred corners and inside shapes.

Holes, pin and screw inserts, internal and external milling and routings can also be performed.

ZENEDGE Series machines are equipped with inside and outside water jet spindle and manual tool change system (ZENEDGE 22) or automatic tool holder change (ZENEDGE 22/8).

Up to three wheels can be stacked on the spindle to grind and polish without any tool holder change .

ZENEDGE 22/8 type is equipped with 8 position tool crib with automatic selection for tool withdrawal and deposit. More than one glass sheet can be positioned on the working table.

Robot for automatic loading/unloading operations (optional).

glasstec.02.03.05

Polishing technology

### Automatic polishing Series

Fully automatic machines to polish all types of edge and bevel on heavy rectangles with rounded corners, oval etc.

Adjustable rotation speed.



## Loxéal Engineering Adhesives S.r.l.



Address	Via Marconato, 2 20031 Cesano Maderno / MB Italy
Phone	+39 0362 551701
Fax	+39 0362 524225
Internet address	www.loxeal.com
E-Mail	info@loxeal.com
Stand	Hall 09, A07 (Page 626)

### Product Overview

Loxéal Engineering Adhesives S.r.l.

glasstec.02.11.04	Sealants
glasstec.02.11.08.07	Other chemicals
glasstec.04.10	Adhesive technology
glasstec.21.02	Special offers for glass trade / crafts
glasstec.21.03	Special offers for architects

### Product Details

Loxéal Engineering Adhesives S.r.l.

glasstec.02.11.04	Sealants
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### Pipe Sealing

USE

Anaerobic threadsealing adhesives seal and lock threaded connections against pressure of gas,

air, water, oils, hydrocarbons and many chemicals. They replace hemp and P.T.F.E. tapes and

are available in various grades of locking strength with resistance to various chemicals.

Certified according to various international standards, e.g. DVGW, NSF, WRAS, KTW, BAM.

### LUOYANG GANGXIN GLASS TECHNOLOGY CO., LTD.

Address	No. 25 Airport Road 471000 Luoyang City, Henan Province China (Rep.)
Phone	+86 379 63711056
Fax	+86 379 62201609
Internet address	www.gangxingglass.com
E-Mail	gangxingglass_sales@hotmail.com
Stand	Hall 11, E02A (Page 632)

#### Product Overview LUOYANG GANGXIN GLASS TECHNOLOGY CO., LTD.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

glasstec.21.03 Special offers for architects

#### Product Details LUOYANG GANGXIN GLASS TECHNOLOGY CO., LTD.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

##### GX-P Series Flat Glass Tempering Furnace

Main purpose:

GX-P series flat glass tempering furnace are mainly used to produce flat tem-

pered glass for architectural purposes, interior decorations, furniture appliances, instrumentation, lamp, etc.

Main technical Features:

Glass sheet size: Max size 3500 x 12000(mm).Min size 60 X 60(mm):

High quality and product: Up to GB9963, GB9656, ECER43, ANSIZ97.1 standards:

Broad applicability: Float glass, coated glass, rolled patterned glass;

Advanced heating methods: Radiation/convection matrix heating optional with intelligent heating control system:

Lower energy wasting: Continue produce and tempering, reduce energy wastering;

Easy operation: User-friendly interface, whole produce with auto-control;

Full date storage: Computer-stored glass-type parameter recipes for full range of glass types.

### MACHINES DUBUIT SAS

Address	10/12, rue du Ballon - ZI Les 93160 Noisy le Grand France
Phone	+33 1 48158100
Fax	+33 1 45928980
Internet address	www.machinesdubuit.com
E-Mail	jfpuyaumont@dubuit.com
Stand	Hall 12, D57 (Page 636)



**Product Overview**

MACHINES DUBUIT SAS

glasstec.01.09.03 Annealing lehrs, continuous/intermittent operation

glasstec.01.09.04 Decorating lehrs

glasstec.02.03.08.01.01 Screen printing techniques

glasstec.02.03.08.01.04 Other screen printing machines

glasstec.02.03.08.03 Pad printing technology

glasstec.03.04.01.01.01 Crystalline PV panels

**Product Details**

MACHINES DUBUIT SAS

glasstec.02.03.08.01.04 Other screen printing machines

**CONCEPT 329**

The CONCEPT 329 completely numerical (servomotors) allows screen printing decoration on any developable shape existing on the market today, these include but are not limited to : Cylinders, Ovals, Polygons & Flat.

Conceived to give an optimum flexibility, the printing head allows to print indifferently across (transverse) or bottom to top (longitudinal) of the object to fit to the decor or to the form of the bottle.

Exclusive, the DUBUIT 329 allows, with longitudinal attachment, to vary the squeegee pressure during the printing cycle to follow a slightly concave shape.

**MACOTEC S.r.l.**

Address	Via per Mantello, 21 23010 Rogolo / SO Italy
Phone	+39 0342 684648
Fax	+39 0342 685255
Internet address	www.macotec.it
E-Mail	info@macotec.it
Stand	Hall 16, F60 (Page 652)

**Company News**

MACOTEC S.r.l.

**07/13/2010 Technology**

MACOTEC is an leading company, based in the North of Italy, for the manufacturing and installation of automatic plants for the storage, handling and cutting of glass sheets. A well established know-how and a considerable experience are at the basis of the company long history, which grown up extremely well and today in one of the few companies that can offer a complete product range in the cutting machines field: from the small stand alone cutting tables up to the most sophisticated automatic plants. The production unit extends on a total surface of 10.000 square meters, of which 600 dedicate to the offices, and is subdivided in two productive units where are located construction and the assembling departments, for standard machine and automatic plants. In order to grant the "total quality" Macotec has placed in its facility a metal working unit, for the machine customization and prototypes, a wood assembling and a painting line so to take personally care about the final quality of all the produced machines

PICTURE 1 (external view)

MACOTEC started his activity in the cutting machine business and today is still focusing its efforts in this field because the owners strongly believe in the fact that "being specialist" is better and the its steady growth shows that customer have appreciated this company's mission: "being specialist" grants to the customer to have always the right partner for their business who is ready to talk and listen to

them with the needed technical competence.

**Product Overview**

MACOTEC S.r.l.

glasstec.02.01.01.02 Cutting technology for laminated safety glass

**Product Details**

MACOTEC S.r.l.

glasstec.02.01.01.02 Cutting technology for laminated safety glass

**Cutting Technology**



The new Strato Advance uses the very well tested Macotec's technology for the laminated glass processing, worldwide known, but thanks to new ideas and small modifications, can now overcome most of the limits imposed by the present technology reaching results unbelievable till today.

· 2cm offcut: huge money saving thanks to the possibility to perform automatically very small trims (2cm) in a full automatic mode

· Automatic off-cuts discharge: the produced off cuts are discharged automatically into a waste bin margin: 0cm 0cm 0pt 18pt; mso-list: 10 level1 lfo1;"> · Automatic subplates rotation: Automatic

**MALNATI S.A.S. DI MALNATI ANTONELLA & C. S.A.S.**

Address	VIA OLONA, 113 21013 GALLARATE (VA) Italy
Phone	+39 0331 821468
Fax	+39 0331 821468
Internet address	www.malnati.name
E-Mail	info@malnati.name
Stand	Hall 15, G61 (Page 648)

**Product Overview**

MALNATI S.A.S. DI MALNATI ANTONELLA & C. S.A.S.

glasstec.02.10.01 Washing machines and equipment

**Product Details**

MALNATI S.A.S. DI MALNATI ANTONELLA & C. S.A.S.

glasstec.02.10.01 Washing machines and equipment

**1000 TNS**

Horizontal washing machine

**1300 M4**

Vertical washing machines



## MAPPI INTERNATIONAL S.r.l.

Address	Via Fieramonti, snc 04012 Cisterna di Latina / LT Italy
Phone	+39 06 96873284
Fax	+39 06 96873211
Internet address	www.mappi.it
E-Mail	info@mappi.it
Stand	Hall 11, G69 (Page 632)

### Product Overview

MAPPI INTERNATIONAL S.r.l.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

### Product Details

MAPPI INTERNATIONAL S.r.l.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

### FOX

The Fox series is designed to satisfy the demands of the small to medium sized glassworks that are interested in integrating a compact tempering plant but are limited by available space. The Fox series maintains high quality standards while remaining economical.

### New TOM: orientable glass Bending and tempering furnace.

It has an international patent and applies a specific technology of bending during the glass heating phase. Without crimping and printing we assure a better quality of the endproduct. The surface of the glass remains intact because there is no contact with any support.

These plants are assembled and tested at the MAPPI



factory, where we do the training also to the personell customer. The New TOM furnaces are characterised by a very good quality/price relation and designed also to run smaller productions.

The New TOM is particularly ideal for the production of glass for the use in sectors such as furnitures, building and automotive.

## Marker Italia S.r.l.

Address	Zona Industriale S. Chiodo, 150 06049 Spoleto (PG) Italy
Phone	+39 0743 225084
Fax	+39 0743 225084
Internet address	www.markeritalia.com
E-Mail	info@markeritalia.com
Stand	Hall 14, B01 (Page 644)

### Product Overview

Marker Italia S.r.l.

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

### Product Details

Marker Italia S.r.l.

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

### A98-1

#### FEATURES:

Ability to mark logos up to 30 mm of diameter.

Possibility to mark logos, brands, decorations, etc.

Permanent marking on plain, round, hollowed, faceted surfaces, etc...

Rapidity of execution (1 sec./stroke)  
 Absolute convenience of the system and a practically non existent maintenance  
 Absolute precision with lines up to 0,05 mm  
 Counter in a Shockproof rubber  
 Does not produce pollution  
 Does not produce noises

**A98-1**

FEATURES:

Ability to mark logos up to 30 mm of diameter.  
 Possibility to mark logos, brands, decorations, etc.  
 Permanent marking on plain, round, hollowed, faceted surfaces, etc...  
 Rapidity of execution (1 sec./stroke)  
 Absolute convenience of the system and a practically non existent maintenance  
 Absolute precision with lines up to 0,05 mm  
 Counter in a Shockproof rubber  
 Does not produce pollution  
 Does not produce noises

**A98-2**

FEATURES:

Ability to mark logos up to 25 mm of diameter.  
 Possibility to mark logos, brands, decorations, etc.  
 Permanent marking on plain, round, hollowed, faceted surfaces, etc...  
 Rapidity of execution (1 sec./stroke)  
 Absolute convenience of the system and a practically non existent maintenance  
 Absolute precision with lines up to 0,05 mm  
 Counter in a Shockproof rubber  
 Does not produce pollution  
 Does not produce noises

**A98-2**

FEATURES:

Ability to mark logos up to 25 mm of diameter.  
 Possibility to mark logos, brands, decorations, etc.  
 Permanent marking on plain, round, hollowed, faceted surfaces, etc...  
 Rapidity of execution (1 sec./stroke)  
 Absolute convenience of the system and a practically non existent maintenance  
 Absolute precision with lines up to 0,05 mm  
 Counter in a Shockproof rubber  
 Does not produce pollution  
 Does not produce noises

**Maroso S.r.l.**

Address	V. A. De Gasperi, 19 36060 Pianezze / VI Italy
Phone	+39 0424 77816
Fax	+39 0424 470308
Internet address	www.maroso.it
E-Mail	maroso@maroso.it
Stand	Hall 15, G52 (Page 648)

**Product Overview**

Maroso S.r.l.

glasstec.02.09.04      Autoclaves

## Product Details

Maroso S.r.l.

glasstec.02.09.04 Autoclaves

### Autoclaves - Pressure equipments

Equipment following customers requirements

In 20 years of business we have become a company known for its safety, reliability and the attention we put in producing our autoclaves.

After a careful attention of the market requirements, we have been convinced to realize for each customer a specific good, which is designed and produced in according with his requirements.

We are used to invest in research and development, in services and company quality organisation improvement; anyway in a such improvement we do not forget the principles on which the best Italian mechanical manufacture tradition was based.

#### Autoclaves

Each customer is the only customer for us. All Maroso's autoclaves are designed and produced in according with the customers requirements. The objective to achieve is to supply an equipment which can satisfy all the customer needs up to particulars. That is what Maroso wants to realize using the best calculation methodologies and the suited materials, becoming a specialist company in fields as: glass, composites materials, methacrylate materials, impregnation, rubber vulcanization, tyres retreading.

#### Climatic chambers

Maroso includes also in its production the climatic assembling rooms which are necessary for the automatic coupling of the laminated glass and for the manual coupling of the curved and the special glass, both tempered or toughened sheets.

The climatic chambers are made in order to warrantee to the PVB film the necessary temperature, humidity and positive pressure conditions inside the room.

For the above mentioned fields, Maroso has got a 24 hours online assistance which allows to the customer a quickly trouble shooting.

## Marval S.r.l.

Address	Via la Valle, 47/49 22066 Mariano Comense / CO Italy
Phone	+39 031 744752
Fax	+39 031 751117
Internet address	www.marvalglass.com
E-Mail	sales@marvalglass.com
Stand	Hall 16, F43 (Page 652)

## Product Overview

Marval S.r.l.

glasstec.02.08.01 Complete plant for insulating glass production

## Product Details

Marval S.r.l.

glasstec.02.08.01 Complete plant for insulating glass production

### Washing Machines

Vertical Automatic Washing Mashine for in insulating glass Type A16/T6-A25/T6-A25/T6

Vertical Washing Mashine Type Dual art. B134/DL-BL164/DL-B204/DL

Vertical Washing Mashine Open-Top art. B13/B16/B20-E6



## Maschinenbau GEROLD GmbH & Co. KG



Address	Herrenpfad-Süd 44 41334 Nettetal Germany
Phone	+49 2157 817-0
Fax	+49 2157 817-100
Internet address	www.gerold-mb.de
E-Mail	info@gerold-mb.de
Stand	Hall 14, E40 (Page 644)

### Product Overview

Maschinenbau GEROLD GmbH & Co. KG

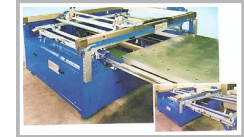
glasstec.01.13.01	Feeding and stacking systems
glasstec.01.13.02	Transport and handling systems
glasstec.02.03.08.01.01	Screen printing techniques
glasstec.02.06.02	Enamel glass machines, screen printers, thermal pressure equipment
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass

### Product Details

Maschinenbau GEROLD GmbH & Co. KG

glasstec.02.03.08.01.01 Screen printing techniques

#### Screen printing technology



glasstec.02.09.02.02 Laminated glass technology with foil for automotive glass

#### Glass Machinery - Drying Installations



GEROLD's product range for flat glass, and particularly automotive glazing, is also complemented by infrared-drying installations and ultraviolet-curing installations. The modular concept of these machines offers individual configuration as regards glass transport system, number of heating and cooling zones or number and position of radiators. Depending on the requirements and their design the drying installations can be obtained in different performance levels, especially visible in terms of cycle time and outlet temperatures.

## McGill AirClean

Address	1777 Refugee Road 43207 Columbus, Ohio USA
Phone	+1 614 829-1356
Fax	+1 614 445-8759
Internet address	www.mcgillairclean.com
E-Mail	tshay@mcgillairclean.com
Stand	Hall 15, D47 (Page 648)

**Product Overview**

McGill AirClean

glasstec.01.04.10	NOx control technology
.....	
glasstec.01.04.11	Filter technologies (smoke and electrostatic)
.....	
glasstec.02.12.04	Purification of exhaust gases

**Product Details**

McGill AirClean

glasstec.02.12.04	Purification of exhaust gases
-------------------	-------------------------------

**Complete Systems**

We supply complete air pollution control systems to solve a combination of particulate, acid gas, and VOC problems. We have extensive engineering and manufacturing capabilities and provide all the necessary auxiliary equipment for those systems.

We offer a selection of control systems to meet your operational requirements. Options range from basic controls to our powerful PC-SAM™ system, which combines a programmable logic controller (PLC) and personal computer (PC). PC-SAM provides simplified control, programming flexibility, and extensive data acquisition capabilities and remote modern control.

We also design and supply the following auxiliary equipment: evaporative coolers, recycling systems, disposal systems, ductwork, breeching, stacks, support structures, platforms and stairways, and Burnely Baffles® dust suppression systems.

**MDI SCHOTT Advanced Processing GmbH**



Address	Obere Austr. 6 55120 Mainz Germany
.....	
Phone	+49 (0)6131-7321-0
.....	
Fax	+49 (0)6131-7321-101
.....	
Internet address	www.mdischott-ap.com
.....	
E-Mail	sales@mdischott-ap.com
.....	
Stand	Hall 09, E38 (Page 626)

**Product Overview**

MDI SCHOTT Advanced Processing GmbH

glasstec.02.01.01.01	Cutting technology for float glass
.....	
glasstec.02.01.01.03	Cutting technology for technical glass
.....	
glasstec.02.02	Drilling technology
.....	
glasstec.02.05.01	Laser-isolating technology
.....	
glasstec.02.05.02	Laser-marking technology
.....	
glasstec.02.05.03	Laser-removing technology
.....	
glasstec.04.02	Cutting, grinding and drilling tools

**Product Details**

MDI SCHOTT Advanced Processing GmbH

glasstec.02.01.01.01 Cutting technology for float glass

**Conventional and Laser Cutting Systems**

MS 500 This X-Y-cutting system is designed with one single head.

MP 500 If you want to be able to cut free shapes this machine type is the right one.

MM 500 This machine is designed for high throughput and is equipped with up to 5 cutting heads.

DLC 600 This smallest laser scriber can handle glass sizes up to 500 x 500 mm.

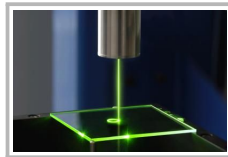
DLC 800 This laser scribing unit is designed for high throughput and larger formats. Free shape cutting also possible !



glasstec.02.02 Drilling technology

**GLS 500**

Opening new opportunities: With Green Laser (532nm) we are able to process glass in multiple ways by ablation. It is possible to drill holes in various sizes, thicknesses and even with different flexible shapes. Whenever you need to perform a hole which has any special requirement, laser drilling might be a good choice.



- various shapes • no thickness limitation by min. diameter • minimum bulging • high flexibility by performing any shape • no mask or other tools needed

**METAL UNION Sp. z o.o.**



Address	Zyzna 11F 42200 Czestochowa Poland
Phone	+48 34 3661300
Fax	+48 34 3661350
Internet address	www.metalunion.pl
E-Mail	metalunion@metalunion.pl
Stand	Hall 17, C76 (Page 656)

**Product Overview**

METAL UNION Sp. z o.o.

glasstec.02.11.05	Spacers
glasstec.21.03	Special offers for architects

**Product Details**

METAL UNION Sp. z o.o.

glasstec.02.11.05 Spacers

**Galvanised steel frame**

The galvanised steel distance frame manufactured by METAL UNION is designed for glazing unit production. It is made of a 0.24 mm-thick hot-galvanised steel strip. Its width depends on the of manufactured frame.

Advantages of the galvanised steel distance frame:

The thermal parameters of the presented steel frame are a few times higher than the parameters of conventionally used aluminium frames. This difference results from the thermal conductivity of steel, which is more than 3 times lower than that of aluminium, and the fact that the presented steel profile is made of a 0.24 mm-thick galvanised steel strip, while the wall thickness of a universally used aluminium frame is 0.38 mm. The thermal conductivity of the galvanised



steel distance frame manufactured by METAL UNION is more than 5 times lower than that of a conventional, universally used aluminium frame.

Frame Material Material thermal conductivity (W/m x K) Wall thickness (mm)  
 Overall heat-transfer coefficient k (W\*m2/K)

Universally used aluminium 160 0.38 0.1216

Manufactured by METAL UNION galvanised steel 50 0.24 0.0240

For manufacturers of glazing units, window and door joinery, and for producers of glass panel walls, it is important that the linear expansion coefficient of steel is very similar to that of glass. Table 2 shows us the elongation of 2 m-long glazing unit elements, after heating them up to 50°C:

A 2 m-long glazing unit manufactured at the temperature of 15°C, and then heated up to 65°C, due to its installation in a sun-warmed place, will elongate by 0.9 mm. In these conditions the difference between the elongation of a 2 m-long aluminium frame and glazing unit will be 1.5 mm, while the analogical difference between the steel frame and glazing unit will be 0.2 mm. As we can see, the use of the steel distance frame allows us to reduce stress at the glazing unit seal edge 7.5 times compared with the aluminium frame, which has a direct effect on glazing unit durability.

### Stainless frame

The stainless steel distance frame manufactured by METAL UNION is designed for glazing unit production. It is made of a 0.15 mm-thick stainless steel strip. Its width depends on the of manufactured frame. This product satisfies the requirements of the latest window production technology and satisfies the requirements set for so-called "warm frames". As of today, METAL UNION's offer includes a 16 mm-wide stainless steel frame.



Advantages of the stainless steel distance frame:

The thermal parameters of the presented steel frame satisfy the requirements set for so-called "warm frames", for which the overall heat-transfer coefficient has to be lower than 0.007 W\*m2/K. These parameters are achieved because of the steel grade used, for which thermal conductivity is 15 W/m x K, and the thickness of the steel strip used to manufacture the frame (0.15 mm). The thermal conductivity of the stainless steel distance frame manufactured by METAL UNION is more than 25 times lower than that of a conventional, universally used aluminium frame.

## MHG Strahlanlagen GmbH

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Phone	+49 211 97484-0
Fax	+49 211 7480632
Internet address	www.mhg-strahlanlagen.de
E-Mail	mhg@mhg-strahlanlagen.de
Stand	Hall 12, D52 (Page 636)

### Product Overview

MHG Strahlanlagen GmbH

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

### Product Details

MHG Strahlanlagen GmbH

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

### Automatic Blast Machine

Blast machine for automatically or manually controlled decor sandblasting. Suitable for flat glass up to a size of 2000 mm. The reclaim system with storage container is a guarantee for cleaned usable grit during the blast process!





## Mingte Glass Technology Co., Ltd.

Address	B-701#, 3rd Building, Tongyuan Garden, 471000 Luoyang China (Rep.)
Phone	+86 379 63329289
Fax	+86 379 63329381
Internet address	www.mingteglass.com
E-Mail	sales@mingteglass.com
Stand	Hall 10, G16 (Page 628)

### Product Overview

Mingte Glass Technology Co., Ltd.

glasstec.02.06.03	Mirror coating equipment
glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.02.09.02.03	Laminated glass technology with adhesives, casting resin and laminate

### Product Details

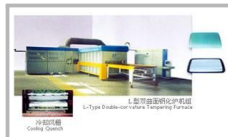
Mingte Glass Technology Co., Ltd.

glasstec.02.06.03 Mirror coating equipment

### MT&GSW series Double-curvature Glass Tempering Furnace

#### Introduction

MT-Gsw Series Double-curvature Glass Tempering Furnace elaborately developed and researched by Mingte Glass Technology Co., Ltd. is the most advanced, most practical, most economical patent technology product for the time being. It is used



to produce back screen shield for high grade automobiles.

#### Main technical characteristic

Advanced shaping method and reasonable technics suitable to produce all kinds of deep-curve double-curvature glass.

Easy-make and cheap molds.

Easy & quick molds change and only 2-4 hours needed to change one type.

Stable & reliable equipment performance with high automation, easy operation and high efficiency.

Powerful & reliable control software. Man-machine dialogue comfortable and convenient for the operator to handle.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

### MT-JWY Series Bent Laminated Glass Pre-heat Pre-pressing Machine

MT-JWY is special bent laminating glass pre-heating pre-pressing machine for producing bent laminated

glass for automobile windshield, which is divided into vertical and Horizontal types for option.

#### •Machine structure:

Bent laminated glass pre-heat pre-pressing machine is composed of heating section, transmission system, vacuum system and air circulation system, it is driven by chain; The speed is controlled stepless by frequency inverter; Temperature is controlled automatically. There are two ways to support glass for transmission system: point support for horizontal type and pole support for vertical type.

#### •Machine features:

This machine is driven by chain with speed control inverter and automatic temperature control system, which is suitable for large batch continuous working. High producing speed and productivity, lower energy consumption and high finished product rate are its distinct advantages.

glasstec.02.09.02.03 Laminated glass technology with adhesives, casting resin and laminate

### MT-JP Series Automatic Flat Glass Laminating Lines

MT-JP series automatic flat glass laminating line mainly includes: washing&drying machine ,glass sheets-combining machine, pre-heat pre-pressing machine and autoclave .

- Automatic control for production cause ,powerful self-diagnosis function, easier and convenient operation.
- Automatic PVB cutting and laying.
- Adjustable press-rollers'distance and pressure according to requirement, automatic pressure balance.
- Saveable product parameters ,adjustable process data on line .
- Optional machine species according to customer's different requirements.

## Mipec AG

Address	Rishaldenweg 40 4852 Rothrist Switzerland
Phone	+41 62 7944777
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Internet address	www.mipec.ch
E-Mail	info@mipec.ch
Stand	Hall 15, D04 (Page 648)

## Product Overview

Mipec AG

glasstec.01.10.01	Optimization of glass cutting and glass production yield
glasstec.02.13.02	Software
glasstec.05.01.05	Control and automation technology
glasstec.05.02.02	CNC control for handling machines
glasstec.05.02.04	Controls for glass inspection machines
glasstec.05.03.02	Inspection, protocolling and diagnostic systems
glasstec.05.03.03	Optimization systems for cutting and yield
glasstec.05.03.04	Process control systems
glasstec.06	Contracting, consulting, engineering, services

## Product Details

Mipec AG

glasstec.02.13.02 Software

### Industrielle Software

In der heutigen Industrie ist die Datenverarbeitung nicht mehr wegzudenken. Zur Qualitätssicherung und Dokumentation müssen immer mehr Daten erfasst werden. Wir sind spezialisiert auf das Erfassen und datenbankgerechte Aufbereiten von Steuerungsdaten verschiedenster Hersteller. Natürlich ist auch die Auswertung dieser Daten eine wichtige Aufgabe die wir auch für unsere Kunden erledigen.Beispiel: Erfassung und Auswertung der Produktionshistorie des Kalten Endes einer Floatglasanlage

## Mitsubishi Diamond Industrial Co., Ltd.



Address	2-12-12 Minami-Kaneden, Suita-Shi 564-0044 Osaka Japan
Phone	+81 6 63783813
Fax	+81 6 63783851
Internet address	www.mitsuboshidiamond.com
E-Mail	contact1@mitsuboshi.dia.co.jp
Stand	Hall 09, E38 (Page 626)

### Product Overview

Mitsuboshi Diamond Industrial Co., Ltd.

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.02	Drilling technology
glasstec.02.05.01	Laser-isolating technology
glasstec.02.05.02	Laser-marking technology
glasstec.02.05.03	Laser-removing technology
glasstec.04.02	Cutting, grinding and drilling tools

### Product Details

Mitsuboshi Diamond Industrial Co., Ltd.

glasstec.02.01.01.01 Cutting technology for float glass

#### Glass Cutters

MDI glass cutters are easy-to-use and highly durable. This group of hand tools with high quality cutting wheels and oil lubrication or other features was the outcome of untiring product development.

HOLDERS with oiled cutting wheels use a "uniflow method" that ensures oil flows out only while cutting. You are assured of a truly sharp cutting edge.

glasstec.02.01.01.03 Cutting technology for technical glass

#### MV5840

Inline system for cutting PDP Glass



## MSC & SGCC



Address	ZA des Plattes, 1 Chemin des Plattes 69390 Vourles France
Phone	+33 4 37201500
Fax	+33 4 78079450
Internet address	www.msc-sgcc.com
E-Mail	customer.service@msc.fr
Stand	Hall 12, F18 (Page 636)

## Product Overview

MSC & SGCC

glasstec.01.02.04	Laboratory equipment
glasstec.02.05.02	Laser-marking technology
glasstec.05.01.01.01	Measurement and control of glass position detection
glasstec.05.01.01.04	Measurement and control of glass thickness
glasstec.05.01.01.07	Measurement and control of glass tension
glasstec.05.01.02.01	Surface, contour and imperfection measurement and control
glasstec.05.02.04	Controls for glass inspection machines
glasstec.05.03.02	Inspection, protocolling and diagnostic systems
glasstec.05.03.04	Process control systems

## Product Details

MSC & SGCC

glasstec.02.05.02 Laser-marking technology

### Hot-end laser engraving system for unique identification of

The Total Tracer, a hot-end laser engraving system, marks a code (datamatrix or alphanumeric) on each container. This code can be read by an automatic reader installed in the cold-end or by a hand-held decoder allowing traceability during the whole article's lifetime.

The system is positioned on the high speed conveyor between the IS machine and the annealing lehr.

Thanks to a simple connection with the IS machine and an automatic synchronization, the CO2 Laser engraves the necessary information on the product.

Company code, glass plant code and line code. Time data: day, hour, minute, second. Section and cavity number.

A real know-how

A compact and precise code on the glass surface. Marks of high quality without cracks or checks

## MURE & PEYROT

Address	25 rue Roger Touton Parc d'activiés Bor 33041 Bordeaux France
Phone	+33 5 5669320-0
Fax	+33 5 5669320-2
Internet address	www.mure-peyrot.com
E-Mail	mail@mure-peyrot.com
Stand	Hall 11, D10 (Page 632)

## Product Overview

MURE & PEYROT

glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass

## Product Details

MURE & PEYROT

glasstec.02.09.02.02 Laminated glass technology with foil for automotive glass

### PROTEM - MP17

Separator made of composite material avoids risks of scratches and resists temperatures up to 160°C under a pressure of 15 Bars.

### Nanjing Kin Yong Fa Plastic Mfg. Co., Ltd.

Address	Build 3, No. 88 Siemens Road, Jiangning 211100 Nanjing, Jiangsu Province China (Rep.)
Phone	+86 25 52105412
Fax	+86 25 52104316
Internet address	www.njyjf.cn
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Stand	Hall 11, F03 (Page 632)

#### Product Overview

Nanjing Kin Yong Fa Plastic Mfg. Co., Ltd.

glasstec.02.09.02.01 Laminated glass technology with foil for architectural glass

#### Product Details

Nanjing Kin Yong Fa Plastic Mfg. Co., Ltd.

glasstec.02.09.02.01 Laminated glass technology with foil for architectural glass

#### Machinery of EVA Laminated Glass

The technology of fuse laminator for making and producing laminated glass with EN / EVA interlayer film is mature. There are two types of EVA fuse laminators: Container laminator and cover-opening laminator. Although container laminator and cover-opening laminator are in different shape and structure, they actually work in same processing technique: pressing glass sheets and EVA film tight together by utilizing negative pressure created by vacuuming and meanwhile expelling air from between glass sheets, and then heating the combination to fuse EVA film to adhere and bond glass sheets together. There are two crucial points in the processing: Point number one, the required negative pressure must be achieved. Point number two, glass and EVA film must receive uniform heating temperature in every part of them. Processing Flow of EVA Laminated Glass

Preparation stage 1□Cutting and rinsing of glass sheets 2□Burnishing of glass

edges 3□Cleaning of glass surface 4□Combining glass sheets, film and art materials 5□Delivering combination to laminator 6□Checking then turning on vacuum pump

Laminating stage 1□Setting the process parameters 2□Starting heating system 3□Switching off heating system but remaining heat preserved

Finishing stage 1□Unloading products and leaving in the air to cool them down 2□Sample testing 3□Trimming and Grinding 24 hours after it is out off production line

### Nanogate AG

Address	Zum Schacht 3 66287 Götterborn Germany
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Fax	+49 6825 9591-852
Internet address	www.nanogate.com
E-Mail	info@nanogate.com
Stand	Hall 10, C29 (Page 628)

#### Product Overview

Nanogate AG

glasstec.02.14 Nanotechnology

glasstec.03.10.01.04.04 Nano coating technology

#### Product Details

Nanogate AG

glasstec.02.14 Nanotechnology

#### Griffschutzbeschichtung

Glas kann wenige Millimeter dünn oder bis zu mehrere Zentimeter dick sein. Es

wird als Fasern gesponnen und in Stangen gegossen. Es kann kugelsicher und feuerfest sein. Der Werkstoff wird geätzt, gesandstrahlt, gelasert, beschichtet, getönt und gehärtet, dekorativ foliert oder im Siebdruck laminiert. Glas filtert UV-Strahlen, lässt Wasser abperlen und Schmutz nicht anhaften. Glas ist enorm vielseitig. Ebenso vielseitig kann Nanogate-Technologie® zur permanenten Oberflächenveredelung in Verbindung mit Glas eingesetzt werden. Das Material wird durch zusätzliche Funktionen ergänzt und aufgewertet, die den Produktnutzen erheblich steigern. Bleibt länger schön und ist leichter zu reinigen. Da Glaswerkstoffe branchenübergreifend eingesetzt werden, sind die Anforderungen an das Material sehr unterschiedlich. In der Architektur z. B. entstehen ganze Gebäude, Fassaden und Dachkonstruktionen aus Glas. Im Außenbereich und auf Fahrzeugscheiben kann Nanogate-Technologie® Wasser abstoßende oder so genannte hydrophobe Eigenschaften erzielen. Durch hydrophile Effekte werden Flüssigkeiten nicht abgestoßen, sondern als dünner Film auf der Oberfläche verteilt. Leitfähige Beschichtungen können Wärme absorbieren oder elektrische Impulse transportieren, ohne die Transparenz des Glases zu beeinträchtigen. Im Innenbereich werden neue Designideen, Spiegel, Türen und vieles mehr aus Glas gestaltet. Auf geätzten oder sandgestrahlten Elementen verhindert Nanogate-Technologie® Fingerabdrücke, erleichtert die Reinigung von Glastüren, verhindert Kalkablagerungen an Duschkabinen und schützt nachhaltig vor Glaskorro

### Nedex Kimya San. ve Tic. A.S.

Address	Milangaz Cad. Ünlüer Sit. A-Blok D. 4 34870 Kartal, Istanbul Turkey
Phone	+90 216 4880155
Fax	+90 216 4885296
Internet address	www.nedex.com.tr
E-Mail	info@nedex.com.tr
Stand	Hall 15, B13 (Page 648)

### Product Overview

Nedex Kimya San. ve Tic. A.S.

glasstec.02.11.08.07 Other chemicals

### Product Details

Nedex Kimya San. ve Tic. A.S.

glasstec.02.11.08.07 Other chemicals

### Polyisobutylen

NEDEX is producing polyisobutylen based primary sealant, KU83B and polyisobutylen based secondary sealant KU83H for insulated glass industry in Istanbul. Both products are specially designed to reach very low gas and moisture penetration rates.

### Neptun S.r.l.



Address	Via Isonzo, 5 22078 Turate / CO Italy
Phone	+39 02 96979011
Fax	+39 02 96754375
Internet address	www.neptunglass.com
E-Mail	info@neptunglass.com
Stand	Hall 16, D15 (Page 652)

**Product Overview**

Neptun S.r.l.

glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.08.02	Digital printing technology
glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.10.01	Washing machines and equipment
glasstec.03.10.03.01.01	Grinding technology
glasstec.03.10.03.01.02	Grinding and polishing materials
glasstec.03.10.03.02.11	Printing techniques
glasstec.04.04	Replacement part, wearing parts

**Product Details**

Neptun S.r.l.

glasstec.02.08.01 Complete plant for insulating glass production

**Insulating glass production lines**

Automatic production lines for big/average enterprises (350 ÷ 400 units / 8h) or semi-automatic production lines for small enterprises (150 ÷ 200 units / 8h) from 1600 mm (62") up to 3300 mm (129") with roller or panel press.



glasstec.02.10.01

Washing machines and equipment

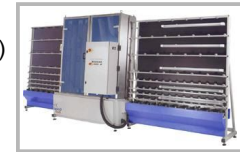
**Horizontal washing machines**

LH Super Inox from 600 mm (23") up to 3300 mm (129") with 4 / 6 or 8 brushes



**Vertical washing machines**

LV Super Inox from 1600 mm (62") up to 3300 (129") mm with 4 / 6 or 8 brushes



**Neutra GmbH**

Address	Oberreit 11 83317 Teisendorf Germany
Phone	+49 8666 9289-0
Fax	+49 8666 9289-22
Internet address	www.neutra-gmbh.de
E-Mail	info@neutra-gmbh.de
Stand	Hall 13, B33 (Page 640)



**Product Overview**

Neutra GmbH

glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies
glasstec.02.03.05	Polishing technology
glasstec.02.12.04	Purification of exhaust gases
glasstec.02.12.05	Waste water treatment
glasstec.02.12.06	Treatment of wheel and polishing wharf

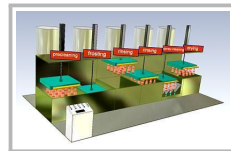
**Product Details**

Neutra GmbH

glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies
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**Frosting machine**

Each Vision 3000 frosting unit is configured according to specific requirements. The system is based on a manual loading/semi-automatic unloading concept. Automatic loading and unloading modules can be added on to enable fully automatic operation.



The glass racks come in the form of immersion cages or suspended workholding fixtures and are custom-built to requirements.

glasstec.02.03.05	Polishing technology
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**Säurepolieranlage mit Sedimentationsbehältern**



glasstec.02.12.04

Purification of exhaust gases

**Waschturm zur Luftreinigung**



glasstec.02.12.05

Waste water treatment

**Waste Water Neutralisation**

Two of the tanks of a wastewater neutralisation unit. The twin towers of a two-stage waste air absorption unit can be seen in the background.



**Nippon Seisen Co., Ltd.**

Address	Kogin Bldg., 4-1-1 541-0043 Osaka Japan
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E-Mail	
Stand	Hall 14, A19 (Page 644)

**Product Overview**

Nippon Seisen Co., Ltd.

glasstec.02.04	Forming and bending technology
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**Product Details**

Nippon Seisen Co., Ltd.

glasstec.02.04

Forming and bending technology

**NASLON (Metal Fiber)**

Ultra-thin stainless fiber with a diameter of 2-50 µm (2 to 50 micrometers), trademark name NASLON, has been developed using our own technology. Displaying great features that stainless steel possesses such as heat- and corrosion-resistance, NASLON is widely used for glass manufacturing process or high-performance film/ precision filters for resin. In addition, it is highly evaluated as ultra-minute gas filters used in the manufacturing process of semiconductors.

**Stainless Steel Wire**

Stainless steel wires provided by Nippon Seisen are widely used for screws, springs, wire netting, etc., in various markets from commodities to electronics. We are proud of our wide range of products as well as their excellent quality. We manufacture and sell wires with diameters of 0.015 mm to 18.0 mm to suit all your needs. Square, flat square, and other extraordinary shapes are also available.

**Nirvana Technologies (P) Ltd.**



Address	A3/492, Sahakar Nagar, Part 2, Chembur 400 071 Mumbai India
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Fax	+91 22 39167297
Internet address	www.nirvanatec.com
E-Mail	info@nirvanatec.com
Stand	Hall 15, A13 (Page 648)

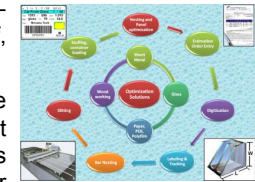
**Company News**

Nirvana Technologies (P) Ltd.

**09/17/2010 Special Exhibition Offer for Glasstec 2010**

Nirvana Technologies is pleased to announce a Special Exhibition offer during Glasstec 2010, Düsseldorf, Germany.

All visitors who participate in a demo session will be eligible for discount coupons that they can collect at the Booth (Hall 15, A-13). In addition our engineers will be pleased to take you through a test drive of our software, and answer any queries you may have.



Please visit the following URL for more details on our products... [www.nirvanatec.com/products.html](http://www.nirvanatec.com/products.html)

Nirvana Technologies provides complete suite of optimization solutions for glass industry. Of these the following products will be on demonstration during the exhibition.

PLUS 2D Glass : Optimization Software

PLUS 1D : Bar nesting software for profiles and extrusions

PLUS Glass Manager : Order Processing and Inventory Management Software

PLUS Replicam : Digitizing software to replicate templates

PLUS Label Maker : Bar Code Labeling & Tracking solution

**Product Overview**

Nirvana Technologies (P) Ltd.

glasstec.01.10.01	Optimization of glass cutting and glass production yield
glasstec.02.13.02	Software
glasstec.05.03.01	MRP/CAD/CIM systems
glasstec.05.03.03	Optimization systems for cutting and yield
glasstec.21.03	Special offers for architects

**Product Details**

Nirvana Technologies (P) Ltd.

glasstec.02.13.02 Software

**PLUS Glass Manager - Order Processing and Inventory Mgmt.**

PLUS Glass Manager helps in estimation, quick preparation of quotation and inventory maintenance. It generates accurate estimates from Request for Quotes (RFQ) using multiple price lists. It also tells you the stock position and material requirement so that purchase and processing can be scheduled accordingly. You can maintain your Customers and their Contacts. A useful software for Glass Processors and Fabricators.



**PLUS Label Maker - Bar Code Labeling**

PLUS Label Maker is a bar code label making software to print labels using an ordinary Inkjet, Laser or even Thermal printer. It will print to nearly all PC compatible printers.



**O.C.S. Glass S.r.l.**

Address	Via Cave Ticino, 10 20020 Robecchetto con Induno Italy
Phone	+39 0331 897904
Fax	+39 0331 890645
Internet address	www.ocsglass.it
E-Mail	info@ocsglass.it
Stand	Hall 15, E47 (Page 648)

**Product Overview**

O.C.S. Glass S.r.l.

glasstec.02.01.01.01 Cutting technology for float glass

**Product Details**

O.C.S. Glass S.r.l.

glasstec.02.01.01.01 Cutting technology for float glass

**MANUAL CUTTING TABLES**

TCA/101

Drawn steel framework. Air-cushion working surface with black felt covered. Pneumatic tilting plan. N° 2+1 pneumatic break-out bars. Air cushion fan. N° 4 wheels for table displacement. Electric cupboard and operating push buttons control unit on the board. Standard dimensions: 3300x2400 mm, weight 650 Kg

TRP/P105

tilting table with rolls for lifting glass, by pneumatic system control. Steel drawn framework chip-wooden surface covered with black felt N° 4 wheels for table displacement and blocking small felt. Push buttons on the board.

Standard dimensions 3300x2200 mm

TCA/102

Very strong electro welded structure. Arms for working plan, united by a big shaft turning on bushings. Tilting surface by oleodynamic system actioned and with black felt covered. N°2+1 pneumatic break out bars. Air cushion fan with noise filter. Electric cupboard operating push buttons control unit on the board of the table. N° 4 wheels for table displacement.

Standard dimensions 3300x2400 mm, weight 750 Kg

TRP/P106

Iron structure, chip-wooden surface covered with black felt

N° 2 dampers for manual surface tilting.

Rolls for manual lifting glass translation and the cutting opening.

N° 4 wheels for table displacement. Adjustable blocking small feet.

Standard dimensions 3300x2200 mm

### Officine M.T.M. S.p.A.

Address	Via Palladio, 36 30038 Spinea Venezia Italy
Phone	+39 041 5089611
Fax	+39 041 999611
Internet address	www.mtmtubemills.com
E-Mail	sales@mtmtubemills.com
Stand	Hall 11, C73 (Page 632)

#### Product Overview

Officine M.T.M. S.p.A.

glasstec.02.08.02 Production equipment for spacers

#### Product Details

Officine M.T.M. S.p.A.

glasstec.02.08.02 Production equipment for spacers

#### WINDOW SPACER

SPECIAL application developed by MTM for the production of aluminium window spacers

### Olbricht GmbH

Address	Haminkelner Str. 30 46499 Hamminkeln-Brünen Germany
Phone	+49 2856 90996-0
Fax	+49 2856 90996-60
Internet address	www.olbricht.de
E-Mail	info@olbricht.de
Stand	Hall 14, E43 (Page 644)

#### Product Overview

Olbricht GmbH

glasstec.01.10.06	Stacking machines
glasstec.01.13.01	Feeding and stacking systems
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.05.02.01	MRP machine and transport adjustment
glasstec.05.02.02	CNC control for handling machines
glasstec.06	Contracting, consulting, engineering, services

**Product Details**

Olbricht GmbH

glasstec.02.01.01.03 Cutting technology for technical glass

**CNC-SCHNEID-BRECH-SYSTEM**

für optoelektronische Gläser

glasstec.02.01.04.01 Mechanical snapping devices

**GLASS PREPROCESSING LINE**

for Opto – Electronic Glasses dia. 600



**Optima S.r.l.**



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Stand	Hall 16, C39 (Page 652)

**Product Overview**

Optima S.r.l.

- glasstec.01.10.01 Optimization of glass cutting and glass production yield
- glasstec.02.13.02 Software
- glasstec.05.03.01 MRP/CAD/CIM systems
- glasstec.05.03.03 Optimization systems for cutting and yield
- glasstec.05.03.04 Process control systems
- glasstec.05.03.05 Other control systems

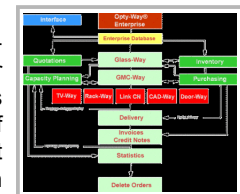
**Product Details**

Optima S.r.l.

glasstec.02.13.02 Software

**Opty-Way® Enterprise**

...is an administrative software of the latest generation. It was specifically designed and developed for Client/Server environments based on 32-bit Windows platforms and is capable of taking full advantage of them. Opty-Way® Enterprise was developed to work at top performance levels in a database environment with SQL standard engines. Opty-Way® Enterprise was designed to meet the requirements of those businesses where information distribution is of crucial importance. A special care was thus paid to integrate the product into the Windows environment and the software available for this operating system, which is today the standard on the market. The Opty-Way® Enterprise software is a modular, built-in application system for the complete management of the following functional areas: Sales (active cycle) and Production.



**optimac glass machinery, optimac cam makina  
sanayi tic. ltd. sti.**



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Fax	+90 216 3119979
Internet address	www.optimac.net
E-Mail	optimac@optimac.net
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**Product Overview**

optimac glass machinery, optimac cam makina...

glasstec.02.01.01.01 Cutting technology for float glass

glasstec.02.08.01 Complete plant for insulating glass production

glasstec.02.08.05 Gas filling machines and gas devices

glasstec.02.08.06 Sealing techniques

glasstec.02.10.01 Washing machines and equipment

**Product Details**

optimac glass machinery, optimac cam makina...

glasstec.02.01.01.01 Cutting technology for float glass

**Glass Cutting Machine**



glasstec.02.08.01

Complete plant for insulating glass production

**LINOX 625**

6 roller brushes for coated glass One reductor motor for each brush Maximum glass height 2500 mm Maximum glass thickness 10 mm Standard working direction from left to right Washing cabinet made of stainless steel Washing - drying cabinet and blower with acoustic insulation Standart size cassette air filter Blower with shut-off valve Stepless adjustable feed in washing section Low-E washing function Stainless steel water pumps Conveying with sprocket -chain between rollers Washing unit construction stainless steel TIG welded surface Stainless steel doors 4 stainless steel cabinets No water mixing among the cabinets Cabinet design for easy handling Stainless steel spray pipes mounted to cabinets Pressurized and angled spray nozzles Spray nozzles removable Nozzle control windows on cabinet Easy maintenance and cleaning Squaring unit, gaps manually adjustable Panel press unit, automatic combining and pressing PLC controlled touch screen Variable press force depending on glass size Double and triple IG units max 2500 \* 3210 mm , up to 60 mm total thickness Fast and rigid with hydraulic tilting table Structural Glazing production, servo control 0 - 80 mm Double speed conveyor Conveyors with buffering system Low-E side detection



**OBC 09 Butyl Extruder**

Butyl container contains 7 kg Coating of circular/curved spacer frames Belt speed adjustment 0 - 36 m/min. Adjustable extruding nozzles for 6-30 mm spacers Digital display temperature conroller Low temperature safety system High pressure safety system Adjustable working pressure and material flow Belt movement right to left



glasstec.02.10.01

Washing machines and equipment

**OWM 620 GLASS WASHING MACHINE**

6 roller brushes for coated glass Maximum glass height 2000 mm

Maximum glass thickness 10 mm Standard working direction from left to right

Washing cabinet made of stainless steel

Washing - drying cabinet and blower with acoustic insulation

Standart size cassette air filter Stepless adjustable feed in washing section



Low-E washing function

VERSIONS

Working heights: 1500,1700, 2200, 2500mm 4 roller brush

Special versions on request

OPTION

One reductor motor for each brush

Blower with shut-off valve

R-O water demineralisation

Squaring-Combining unit

**Panacol-Elosol GmbH**



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**Company News**

Panacol-Elosol GmbH

**16.07.2010 Ornamentglas aus eigener Produktion**

Das Ausgangsmaterial beim UV-Gluechipping ist sandgestrahltes Glas. Bearbeitet wird nur die raue Glasseite. Sie muss vor Beginn der Veredelung gereinigt werden und vollständig trocken sein. Sind die Vorarbeiten erfolgt, stehen dem Glasgestalter mit QuickChip88 und QuickChip88Gel zwei UV-Klebstoffe für verschiedene Methoden des Auftrags zur Verfügung. Mit QuickChip88 lassen sich beliebige Formen auf das Glas aufbringen. Dabei kann der Auftrag wahlweise mit Schablonen bzw. Masken oder auch freihändig erfolgen. Mit der Gel-Variante können die gewünschten Formen trennscharf konturiert werden, wobei das dickflüssigere Gel in individueller Schichtdicke aufgetragen werden kann. Laut Panacol funktioniert der Auftrag sogar an 3-D-Objekten oder senkrechten Flächen, beispielsweise an bereits eingebauten Glasflächen. Die Schichtdicke des Klebers beeinflusst dabei das beim Aushärtungsvorgang entstehende Chipmuster. Nach dem Auftragen der UV-Kleber folgt der Aushärtungsprozess durch den Einsatz von UV-Strahlern.



Chemischer Prozess erzeugt Spannungen Durch einen speziellen chemischen Prozess (hoher Schrumpf) entstehen durch das Einwirken des Klebers bereits nach ca. zweiminütiger UV-Härtung und Nachtrocknung auf der Glasoberfläche Spannungen. An den gechippten Stellen lösen sich Glasmuscheln, die meist ohne weiteres manuelles Einwirken ausfallen. Unter den abgelösten Flächen zeigt sich transparentes und ausgemuscheltes Glas. Die Gluechipping-Technik zur Herstellung von Ornamentglas ist einfach wie wirkungsvoll. Sie ermöglicht ohne großes technisches Equipment die Erstellung von kunstvollen Ornamenten und Motiven jeglicher Art. Großflächige Glasflächen lassen sich ebenso effektiv, beispielsweise mit Kunst-Motiven, Schriftzügen, Logos oder flächigen Designs gestalten wie kleine Glaseinheiten. Unter Einsatz von QuickChip88Gel lassen sich auch dreidimensionale Objekte, wie Vasen, Glasschüsseln oder andere Objekte behandeln. Der Fantasie sind dabei keine Grenzen gesetzt. www.panacol.de

**Product Overview**

Panacol-Elosol GmbH

glasstec.02.03.06	UV edge taping technology
glasstec.02.07.02	Components and accessories for display glass technology
glasstec.02.09.02.03	Laminated glass technology with adhesives, casting resin and laminate
glasstec.02.11.08.07	Other chemicals
glasstec.03.10.01.04.01	Sealants and adhesives

**Product Details**

Panacol-Elosol GmbH

glasstec.02.03.06 UV edge taping technology

**Innovative industrial adhesives**

Innovative industrial adhesives

Panacol-Elosol supplies a comprehensive range of special-purpose adhesives for use in many fields of application.

Our adhesives and sealants:

Vitalit®. UV-A and light-curing epoxides and acrylates

Elecolit®. Electrically and thermally conductive

Cyanolit®. Rapid curing Structalit®. For extreme strengths and various

Penloc®. Anaerobic products for securing, fastening and sealing.

Penloc GZ/GT1®. Universal structural adhesives

Cerastil®. High-temperature adhesives and sealants



**Vitalit®-Belichtungsfeld**



Zum Verkleben von Glasvitrienen, Sideboards und anderen Möbelstücken wurde in der Hönle Gruppe das Vitalit® Belichtungsfeld entwickelt. Der flexibel einsetzbare UV-Großflächen-Strahler mit den Maßen 2100 x 750 x 125 mm hat acht Hochleistungsstrahler á 200 Watt und bietet eine effektive Belichtungsfläche von 2000 x 700 mm. Durch seine gleichmäßige, durch den Abstand definierte Ausleuchtung, gewährleistet er eine schonende und spannungsfreie Aushärtung von Glasobjekten. Mit einem rollbaren Stativ und einer höhenverstellbaren Befestigung, kann das Vitalit®-Belichtungsfeld in verschiedene Positionen in der Horizontalen für eine perfekte Belichtung auf das Objekt gebracht werden.

glasstec.02.07.02

Components and accessories for display glass technology

**UV-Gluechipping**



UV-Technologie lässt sich nicht nur zum Fügen von Glas nutzen, sondern auch zur Herstellung von gestalterischen Ornamentgläsern. Das beweist das neue Verfahren – UV-Gluechipping, das der Klebstoffspezialist der Hönle-Gruppe Panacol entwickelt hat. Gluechipping war ursprünglich für die Anwendung von tierischem Warmleim (Knochenleim) erfunden worden und wurde bislang wegen der aufwändigen Technik nur in der Industrie genutzt. UV-Gluechipping mit Panacol QuickChip88® steht nun der gesamten Glas-Branche und auch dem Glas-Künstler zur Verfügung: Der gebrauchsfertige UV-härtende Einkomponentenkleber lässt sich äußerst einfach handhaben und reagiert innerhalb weniger Minuten.

Ausgangswerkstoff beim UV- Gluechipping ist sandgestrahltes und auf diese Weise aufgerautes Glas. Bearbeitet wird die raue Glasseite, die gereinigt und vollständig trocken sein muss. An Substraten stehen die UV-Klebstoffe QuickChip88® und QuickChip88Gel® für verschiedene Methoden des Auftrags zur Verfügung. Mit QuickChip88® wird eine beliebige Form aufgebracht, mit Hilfe von Schablonen bzw. Masken oder auch freihand. Mit der Gel-Variante kann eine Form trennscharf konturiert und in individueller Schichtdicke gefüllt werden. Dies funktioniert sogar an 3-D-Objekten oder senkrechten Flächen (z.B. fest eingebauten Teilen). Nach dem Auftrag folgt in jedem Fall die UV-Härtung, optimal mit starken UV-Strahlern aus der Gruppe, wie dem Hönle UVA



Hand 250W.

Durch einen speziellen chemischen Prozess (hoher Schrumpf) nach ca. zweiminütiger UV-Härtung und Abkühlung – unter einer Stunde bei Raumtemperatur – entstehen auf der Glasoberfläche Spannungen, die an den behandelten Stellen „Glasmuscheln“ lösen und meist von alleine ausfallen lassen. Darunter zeigt sich transparentes und ausgemuscheltes Glas.

Mit dieser neuen, jetzt einfachen Technologie sind kunstvolle Ornamente und Motive jeglicher Art auf Fenstern, Türen und sonstigen Glas-Objekten möglich. Sowohl großflächige Glasflächen für die Industrie als auch Gläser mit Kunst-Motiven für den privaten Bereich können gestaltet werden. Vorstellbar sind zum Beispiel Schriftzüge, wie Logos für Firmen oder flächige Designs etwa für Glasmöbel. Mit QuickChip88Gel lassen sich sogar dreidimensionale Objekte – Vasen, Glasschüsseln, -krüge und –ornamente – behandeln. Der Fantasie sind hierbei keine Grenzen gesetzt.

glasstec.02.09.02.03 Laminated glass technology with adhesives, casting resin and laminate

### Leading UV technology

Panacol-Elosol is the specialist for industrial adhesives within the Höhle group. Our comprehensive product portfolio includes UV and structural adhesives, sealants, silicones and more.

Looking for a system solution? Welcome to the Höhle group!



For first-rate curing devices look no further than the group's parent company Dr. Höhle AG. Here you will find everything around UV technology. The product range covers UV lamps, UV and UV LED equipment and plants as well as custom devices.

glasstec.02.11.08.07 Other chemicals

### Innovative Industrieklebstoffe

Panacol-Elosol bietet eine umfangreiche Auswahl von Spezial-Klebstoffen, die in vielen individuellen Anwendungsbereichen optimal eingesetzt werden.

## Panasonic Electric Works Europe AG



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### Company News

Panasonic Electric Works Europe AG

#### 06/17/2010 Laser glass marking process

Panasonic developed a new flat glass marking process called LTF-C. LTF-C stands for Laser Transfer Film – Contrast. It can be an alternative to ink jet printing, paper labels and silk screen printing in the flat glass and photovoltaic industry. LTF-C, a flat glass marking technique that gives nearly the same technical feature than silk screen printing but does not need the over 700°C hardening process. Resistant to temperatures of up to 1000°C, impervious to UV radiation, glass integrity not effected. It can simplify logistics, reduce costs and avoid manufacturing errors. You can find some back ground information about the new LTF-C marking technique on the LaserTransferFilm-Contrast movie and on Panasonic homepage.



### Product Overview

Panasonic Electric Works Europe AG

glasstec.02.05.02 Laser-marking technology

**Product Details**

Panasonic Electric Works Europe AG

glasstec.02.05.02

Laser-marking technology

**1A Laser black marking on glass**

Panasonic "Ideas for glass marking"



Panasonic developed a new flat glass marking process called LTF-C. LTF-C stands for Laser Transfer Film – Contrast. It can be an alternative to ink jet printing, paper labels and silk screen printing in the flat glass and photovoltaic industry. LTF-C, a flat glass marking technique that gives nearly the same technical feature than silk screen printing but does not need the over 700°C hardening process. Resistant to temperatures of up to 1000°C, impervious to UV radiation, glass integrity not effected. It can simplify logistics, reduce costs and avoid manufacturing errors. You can find some back ground information about the new LTF-C marking technique on the on Panasonic homepage. [www.panasonic-electric-works.com](http://www.panasonic-electric-works.com).

**1A Markieren auf Glas mit der LTFC-Technologie**

tesa und Panasonic haben zusammen eine revolutionäre Technologie für die dauerhafte Glasmarkierung entwickelt. Mit dem Laser Marker von Panasonic und dem Laser-Transfer-Film von tesa ist eine einzigartige, kontrastreiche Markierung möglich geworden, die fälschungssicher und unzerstörbar ist.



Wesentliche Merkmale der LTF-C Beschriftung Hoher Kontrast So beständig gegen Chemikalien und abriebfest wie das Glas selbst Temperaturbeständig bis zu 1200°C UV-beständig Zerstörungsfreie Markierung von Glas und Solarzellen Beschriftung ohne Beschädigung der TCO-Schicht möglich Diebstahlschutz Lesbar für das menschliche Auge und Maschinen Beschriftung mit 1D- oder 2D-Code Haltbarkeit (min. 25 Jahre) Sicherstellung der Rückverfolgbarkeit Identifizierung von Fehlerursachen Individuelle Beschriftung von Glas- und Solarmodulen

Wesentliche Merkmale des Markiersystems

Flexibler Einbau des Lasermarkiersystems (eigenständig oder in ein vorhan-

denes Beförderungssystem integriert) Einfache Bedienung des Systems durch intelligente Touchpanel-Bibliotheken Kommunikation ist über verschiedene Netzwerke möglich: PROFIBUS DP, CC-Link, Ethernet TCP/IP, CANopen, etc. Komplette Aufzeichnung von Produktionsdaten mit 2D-Codelesern, SPSen etc. Laser Marker, Codeleser, Bediengeräte, Schutzumhausung, mechanische Vorrichtungen, Kommunikationssysteme, Einbau und Service - alles aus einer Hand

**A glass marking solution for identification, track & trace**



LTF-C stands for Laser Transfer Film – Contrast. It can be an alternative to ink jet printing, paper labels and silk screen printing in the flat glass and photovoltaic industry. It can simplify logistics, reduce costs and avoid manufacturing errors. LTF-C, a flat glass marking technique that gives nearly the same technical feature than silk screen printing but does not need the over 700°C hardening process. Resistant to temperatures of up to 1000°C, impervious to UV radiation, glass integrity not effected. You can find additional back ground information on the LaserTransferFilm-Contrast movie on the [www.panasonic-electric-works.com](http://www.panasonic-electric-works.com) homepage.

**Pannkoke Flachglastechnik GmbH**

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Stand	Hall 15, B21 (Page 648)

## Company News

Pannkoke Flachglastechnik GmbH

### 09/08/2010 What you can see at the glasstec 2010

At this year's glasstec we will present our new generation of devices, the 4-circuit vacuum systems for glazing work on construction sites within the EU.

These new vacuum lifters achieve higher device security with a lower number of suction cups. The EU safety standard EN13155 requires that in the event of failure of a vacuum circuit, the remaining vacuum circuits must hold the nominal load with 2-fold safety. The number of failing suction cups can be reduced through division into four vacuum circuits, so that less suction cups are required than in traditional 2-circuit vacuum lifting devices.

Furthermore, we will present the KOMBI 7441-DS from our wide range of equipment, with which is possible to turn up to 1800 kg heavy panes by motor and swivel hydraulically. The large number of possible suction cup configurations makes this unit extremely versatile.

We will present the proven 2-circuit vacuum lifting device KOMBI 7211-DS3, with its unique latching mechanism for easy tilting of heavy loads, as a modern four-cycle vacuum lifting device, with which you can now move up to 1200 kg with a reduced number of suction cups.

And we will also display a four-circuit vacuum lifting device, the KOMBI 7411-DSG5. This new technology can make a difference, especially with curved glass panes.

New items in the Pannkoke program are our lifting trolleys, that can lift your loads to heights of more than 4 m, yet are easy to hold and can even be transported in a van. Additionally to the lifting trolleys we can offer the suitable Pannkoke-2-circuit vacuum lifting devices for your work, with all their benefits.

The two-circuit technology is now also available for in-house vacuum lifting devices for insulated glass and window production, providing many new features. Together with light cranes or swivelling cranes, these vacuum lifting devices boost your production and improve safety.

Our 7225-MDS4/E is of particular interest, since safety in production should also be a key topic in your establishment. Many safety features have been integrated into this device to avoid accidents at work. The device design is based on accident evaluations of a large glass processor, with which an answer was found for nearly every accident risk. The special features when moving three-fold insulation glass were also taken into account.

## Product Overview

Pannkoke Flachglastechnik GmbH

glasstec.01.13.02	Transport and handling systems
glasstec.01.13.08	Construction and glazing equipment
glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.11.01	Tools

## Product Details

Pannkoke Flachglastechnik GmbH

### glasstec.02.01.01.01 Cutting technology for float glass

#### 2-bridged cutting machine 215-MAN

The manual 2-bridged cutting machine 215-MAN is designed for the series manual cutting of glass sizes up to 3240 x 2400 mm and a glass thickness of 2 to 12 mm.



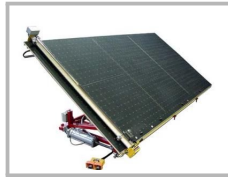
#### Air cushion tilting table 435G - glass cutting machine 100-5

The 435G/100-5d is the economical solution for cutting flat glass in the glass processing company. Float and figured glass sizes up to 2200 x 3210 mm can be cut manually with this cutting table. The manual tilt movement of the table top is supported by gas pressure springs.



### Air cushion tilting table 4900

The air cushion tilting table 4900/LFB is designed for the manual cutting of glass sizes up to 3250 x 6000 mm and a maximum glass thickness of 19 mm. The air cushion tilting table 4900/LFB can, however, also be equipped with a Prince 3 or Prince 3M CNC cutting machine and is then suitable for automatic cutting of glass sizes up to 3250 x 6000 mm and a maximum glass thickness of 19 mm.



### Air cushion tilting table 490P - glass cutting machine 115-5

The cutting table 490P/LFB/115-5 is designed for the manual cutting of glass sizes up to 2600 x 4600 mm and a glass thickness of maximum 8 mm.



### Loading table 428

For the efficient cutting of flat glass with sizes up to 2200 x 3210 mm, you need a quick and reliable loading system in addition to a corresponding cutting machine.



glasstec.02.01.01.02 Cutting technology for laminated safety glass

### VSG-Cutting Machine VSG-L2

For the cost-effective cutting of laminated safety glass, we produce the cutting machine VSG-L2 with a cutting width of up to 3300 mm. Cutting and separating processes are performed at different positions.



glasstec.02.11.01 Tools

### 251 Double hand smoother

Glass edges which have just been cut are very sharp. With this tool you can reduce injuries with little effort in the production line.



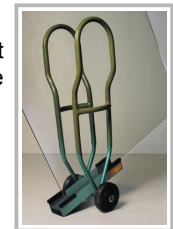
### 295 Safety Suction Handle

The Safety Suction Handle 295 is the optimal suction handle to carry loads vertically.



### 374/GERO50 Glass hand carrier GeRo

You need only two glass hand carriers in order to transport glass panes or other plate materials easily at the site or in the workshop.



### 384 Safety Suction Handle

The safety suction handle 384 is the optimal suction handle to carry loads vertically and horizontal.



### 410-1.6 Hand lap - the optimal firm grip

The hand lap made of special rubber offers you the optimal grip while carrying smooth plate material such as glass panes.



### 535 Suction handle for curved material

The suction handle 535 is the optimal suction handle for holding and moving curved materials.



**555KU Block lever made of plastic - wooden handle**

The block lever 555-KU with a wooden handle was developed especially as a glazing tool.



**PEMCO International, c/o PEMCO Emails S.r.l.**



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**Product Overview**

PEMCO International, c/o PEMCO Emails S.r.l.

glasstec.01.04.13	Feeder colouring
glasstec.02.11.09	Highly opaque special colours and conductive silver pastes for automotive glass
glasstec.03.04.01.02	PV system components
glasstec.03.10.03.02.06	Glass paints
glasstec.03.10.03.02.09	Screenprinting, framing, painting and texturing tools

**Product Details**

PEMCO International, c/o PEMCO Emails S.r.l.

glasstec.02.11.09	Highly opaque special colours and conductive silver pastes for automotive glass
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**Pemco produces a full range of colour oxides used in the ena**

Pemco produces a full range of colour oxides used in the enamelling industry. As well as fulfilling technical demands in the majority of applications, the enamel coating must also provide an aesthetically pleasing appearance. Its colour and surface texture should allow the customer to follow effortlessly modern trends and fashions. Our transparent and opaque enamels can be coloured to almost any shade, simply by adding our oxides, with no adverse effects on slip properties, chemical resistance or surface finish.

**Pneumofore S.p.A.**



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**Company News**

Pneumofore S.p.A.

**08/02/2010 MODERN, AIR COOLED VACUUM SYSTEMS AT GLASSTEC 2010**

Pneumofore confirms its presence at Glasstec, the world no. 1 glass industry tradeshow, as experienced manufacturer of centralized vacuum systems for IS machines in worldwide glassworks.

Vacuum improves the forming process and the quality of glass containers by reducing settle blow marks. It is also used on blank side to increase the speed of production.



The ready-to-use Pneumofore rotary vane vacuum pumps offer constant performance over 24/7 operation, specially designed for the tough working conditions in glassworks. The unique air cooling system avoids troubles with cooling water circuits.

Furthermore, Pneumofore solutions reduce maintenance expenses and electrical power bills, thanks to the variable speed (VS) drive option, which allows a constant vacuum level at the IS machine.

Pneumofore units are the first choice for users seeking the shortest Return of Investment and the lowest Life Cycle Cost. To mention some: Ardagh, Consol, Gallo, Gerresheimer, HNGI, O-I, Saint Gobain, Sisecam, Wiegand.

Pneumofore presents its technology and tailored vacuum solutions for glassworks at Glasstec 2010, Hall 12 / Booth C35.

**Product Overview**

Pneumofore S.p.A.

glasstec.01.06.17 Aids for the forming of hollow glass

glasstec.02.06.01 Vacuum coating equipment

glasstec.02.11.06 Compressor

glasstec.02.11.07 Vacuum pumps

**Product Details**

Pneumofore S.p.A.

glasstec.02.11.06 Compressor

**Rotary Vane Air Compressors**

Models: various

Capacity: 67 - 1.760 m3/h

Pressure: 3 - 10 bar(g)

Power: 7,5 - 250 kW



glasstec.02.11.07 Vacuum pumps

**Rotary Vane Vacuum Pumps**

The ready-to-use Pneumofore rotary vane vacuum pumps offer constant performance over 24/7 operation, specially designed for the tough working conditions in glassworks. The unique air cooling system avoids troubles with cooling water circuits.



Models: UV4, UV8, UV16, UV30, UV50

Capacity: 250 - 3240 m3/h

Pressure: 1 ÷ 0,5 mbar(a)

Power: 5,5 - 90 kW

## Polpur spol. s.r.o.



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E-Mail	polpur@polpur.cz
Stand	Hall 12, D38 (Page 636)

### Product Overview

Polpur spol. s.r.o.

glasstec.02.01.03	Devices for coating removal
glasstec.02.03.05	Polishing technology
glasstec.02.11.01	Tools
glasstec.03.10.03.01.02	Grinding and polishing materials
glasstec.04.02	Cutting, grinding and drilling tools

### Product Details

Polpur spol. s.r.o.

glasstec.02.01.03

Devices for coating removal

#### REMO Tool



REMO Tools are manufactured from microcellular PUR foam and are filled with a special abrasive material developed by POLPUR especially for this application.

These decoating discs are designed for the flawless removal of various types of coatings from the edge of thermoglass grades, the so-called LOW-E glasses, e.g. PLANIBEL PLUS, PLANIBEL TOP (manufactured by Glaverbel), I PLUS (manufactured by Interpane), PLANITERM (manufactured by Vegla Saint Gobain), OPTITHERM (manufactured by Pilkington), etc., prior to glueing with e.g. the BUTYL GD 115 Kit (manufactured by Kömmerling).

With the aid of REMO discs, all metal coating layers on the glass edge will be completely removed, without leaving any residues and without damaging the glass itself. REMO discs are made from an elastic material thanks to which they absorb grinding machine vibrations extremely well, hence greatly improving working conditions. The tools are extremely efficient and their service life is long.

REMO Tools can be supplied in various dimensions to meet customer requirements.

REMO discs can be used on :

manual machines (e.g. Rottler and Rüdiger type ASG.V96 or HSG 93) stationary machines (e.g. Bystronic XYZ F 92 R, Forel CR, Lenhardt REA-1K/2K, Lisec AKL) bridge machines (e.g. Hegla Optimax, Bottero, Bystronic XYZ F97 R, Lisec ESL/RS).

### MH Tools

MH Tools (discs/wheels) are manufactured from specially treated porous polyurethane foam. The tools are used for the polishing and lapping of glass, natural stones, single crystal materials, etc. The MH Tool material has the same properties in all " > ° Greater durability



- Higher polishing productivity
- Higher quality of polished articles
- Higher reproducibility
- Greatly improved work safety
- Less physical effort.

Recommended polishing agents:

Polishing agents such as pumice, tripoli, oxides of iron, cerium, aluminium, chromium, etc., can be used for polishing as well as for lapping.

### Polishing powders

Regipol 506 , produced by O.S.T. (GB).

This product is a universal powder which is the successor of the Regipol Smooth type. It is designated mainly



for the activation of flat glass surfaces before metal coating, facet and cut polishing, or, if need be, for manual polishing of lead domestic glassware. The following materials are suitable as a polishing pad: polyurethane, natural and synthetic felt, cork and the MH and MJ polyurethane tools. Recommended slurry concentration: presilvering 20-30 g·l<sup>-1</sup>, 55-110 g·l<sup>-1</sup>, manual polishing 100□150 g·l<sup>-1</sup>. Recommended polishing slurry temperature is 30-35°C. Regipol 521 , produced by O.S.T. (GB). As well as its predecessor Regipol XTV, this powder exhibits very good removal capacity and at the same time provides high quality of polishing. Hence it is suitable for machine and manual polishing of a large range of glass products, mainly those made from lead crystal. Recommended slurry concentration: machine polishing 55-110 g·l<sup>-1</sup>, manual polishing 100-150 g·l<sup>-1</sup>. Recommended polishing slurry temperature is 30-35°C. Regipol 580 W , produced by O.S.T. (GB) . White glass polishing powder for bevelling with further purpose. R580W is capable of operating with all types of polishing wheels and at high polishing speeds, without affecting surface quality. For best results, we recommend using at a concentration of between: 30-55 g/l (3-5 Baumé) D50 = 2,2 microns POLIMAX , produced by O.S.T. (GB). This is a line of polishing slurries based on aluminium oxide which was developed for the polishing of polycarbonate and acrylate plastic materials. POLIMAX L (D50 1.8 micron, pH 3.4) is the most preferred universal type used not only for the polishing of plastics but also for many other applications such as the polishing of some monocrystalline materials. POLIMAX X (D50 1.2 micron, pH 3.1) is suitable wherever high quality polishing is required even at the cost of somewhat lower removal capacity.

Cerox 1650 , produced by Rhodia (F). This type of powder was developed for machine polishing of glass lenses, mass lens production, plane optics, etc., and also for manual polishing. Product characteristics include long life, top quality of polished surfaces and outstanding characteristics in the resultant polishing slurry. The powder is especially suitable for application on hard glass.

Cerox 1670 , produced by Rhodia (F). This product is a highly effective powder suitable for manual and machine polishing of domestic glassware, mirrors and glass lenses. This powder can also be used for the polishing of hard glass.



## Process Materials, Inc.

Address	5625 Brisa St., Ste A 94550 Livermore, California USA
Phone	+1 925 245-9626
Fax	+1 925 245-9629
Internet address	www.processmaterials.com
E-Mail	bnudelman@processmaterials.com
Stand	Hall 12, C31 (Page 636)

### Product Overview

Process Materials, Inc.

glasstec.01.02.01	Refractory materials
glasstec.02.06.01	Vacuum coating equipment
glasstec.02.06.08	Sputtering targets for glass coatings

### Product Details

Process Materials, Inc.

glasstec.02.06.08	Sputtering targets for glass coatings
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### Sputtering Targets

#### Materials

Process Materials is a full-service Thin-Film Materials provider. We offer high quality products designed for the vacuum industry. These products include metals, alloys and ceramics in any customer designed configuration. Our company provides product design, CAD/CAM and full traceability/analysis of materials. Our materials can be fabricated to fit all commercial or custom designed systems.

Process Materials offers a broad range of purities to satisfy the diverse range of semiconductor to industrial applications.

## Manufacturing

Process materials provides a distinct advantage for its customers in terms of product control. Refining, melting, hot pressing, hot isostatic pressing (HIP'ing), machining, inspection and packaging are provided through our facilities. Our processing methods allow us to offer standard and custom vacuum deposition material that assure complete process and quality control. One example of product manufacturing is alloy casting. Beginning with the base material, we use a filter step to eliminate non-metal particles, such as oxides, which can cause sudden energy discharges during the sputter process. Our heat treatment process guarantees a homogenous structure. Alloy element assures the end user a consistent process quality and the best possible thin film characteristics.

Targets are machined on an automated CNC-controlled process system to maintain the dimensional stability and surface quality of the material. This process is controlled by a statistical measurement system. Our target production facilities are designed for maximum flexibility to assure that products conform to the exact specifications of every customer.

## Quality Assurance

Raw materials enter a dedicated receiving area where they are verified for conformance to purchasing specifications prior to preparation. At this point, they are prepared for the appropriate manufacturing process. Process Materials produces every order with proven techniques, flexible capabilities and the finest fabrication, measuring and testing equipment.

Analysis of materials include glow discharge mass spectrometer (GDMS) testing for trace elements, atomic absorption testing for major contaminants within the metal and c-scan testing for bond integrity. All targets are engraved with a lot number that is fully traceable to the original melt/source.

## Cleaning, Packaging & Documentation

All materials are cleaned and packaged to customer specifications in a CFC-free, class 100 clean room. Products are heat-sealed and vacuum/back filled with an inert gas. All product shipments include a Certificate of Analysis and Material Safety Data Sheet.

Materials are produced to our standard specifications unless directed otherwise by the customer.

## Prodim International B.V.

Address	Lage Dijk 26 5705 BZ Helmond Netherlands
Phone	+31 492 579050
Fax	+31 492 579059
Internet address	www.prodim.eu
E-Mail	info@prodim.eu
Stand	Hall 10, D41 (Page 628)

### Product Overview

Prodim International B.V.

glasstec.02.13.02	Software
glasstec.03.10.01.01.03	Ballustrades
glasstec.03.10.01.01.07	Machinery/tools
glasstec.05.01.02.01	Surface, contour and imperfection measurement and control
glasstec.05.01.03	Measuring devices to be used on site

## Product Details

Prodim International B.V.

glasstec.02.13.02    Software

### Proliner® Door Software



From the start the Proliner® has been very successful in the doors and windows industry and has fully proven itself in this industry. At this moment more than thousands of doors and windows are daily measured with the Proliner® all around the world.

This success has led to the introduction of the Proliner® Doors and Windows software. This new software is the integrated solution in your measuring process of doors and windows.

This latest software guides you through the measuring of your door or window step by step helping you to avoid errors.

If you wish you can upload and download information on your Proliner® via a standard XML code, for instance: size, type hinge etc. However this is not obligatory.

Prior to the measurement you choose the right settings to measure fast and easily step by step, such as: the position of the Proliner®, rotation of the door, position of the hinges, etc. You can now measure your door or window in only 1 minute!

Besides the Proliner® Doors and Windows software Prodim can provide additional software for work preparation at the factory. Besides possible changes in the measuring data, you can for instance generate bar codes for identification of your products and the therefore improve your logistics.

### Profilglass S.p.A.

Address	Via Meda, 28 61030 Bellocchi di Fano (Pu) Italy
Phone	+39 0721 856-711
Fax	+39 0721 856-7480
Internet address	www.profilglass.it
E-Mail	info@profilglass.it
Stand	Hall 16, F38 (Page 652)

#### Product Overview

Profilglass S.p.A.

glasstec.02.11.05      Spacers

#### Product Details

Profilglass S.p.A.

glasstec.02.11.05      Spacers

#### Aluplast

A practical warm-edge system at a reasonable cost to reduce the thermal conductivity and the consequent overall K value in the I.G. units.

### Putsch Meniconi S.p.A.

Address	Via Irlanda, 1 - Loc. Bellavista 53036 Poggibonsi Italy
Phone	+39 0577 90311
Fax	+39 0577 979335
Internet address	www.putschmeniconi.com
E-Mail	info@putschmeniconi.com
Stand	Hall 11, F09 (Page 632)

#### Product Overview

Putsch Meniconi S.p.A.

glasstec.01.06.05      Shear blades

glasstec.01.06.07      Press machines

glasstec.01.06.09      Spinning machines

glasstec.02.01.01.01      Cutting technology for float glass

glasstec.02.01.01.02      Cutting technology for laminated safety glass

glasstec.02.01.02      Glass saws

**Product Details**

Putsch Meniconi S.p.A.

glasstec.02.01.02

Glass saws

**CUTTING MACHINE FOR JAGS AND VASES BRAM 70**



This machine has been designed and built for cutting the mouth of vases into special shapes: you can cut goose-bill anphoras and jugs, and other profiles in all sizes.

The machine is operated by a pneumatic system with automatic cycle, which guarantees precision and speed at the same time.

Pieces are first opened manually, and then cut by the machine with extremely high precision: pieces are then re-burnt.

The main advantage of BRAM 70 is that it is very practical and easy to use, even a young apprentice can use it and obtain the same good results – and in a shorter time – as an experienced glass-maker.

**TECHNICAL DETAILS:**

Working pressure: 6 BAR. Max. applicable cutting diameter: 180 mm.

**MACHINE DIMENSIONS:**

Length: 1700 mm. Width: 650 mm. Height: 800 mm. Net weight: 600 Kg.

**Qingdao Huarui Glass Products Co., Ltd.**

Address	Intersection of Beihuan Road and Lingang Processing Area of Jiaonan City, China (Rep.)
Phone	+86 532 86999595
Fax	+86 532 86998883
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E-Mail	jing.victor@gmail.com
Stand	Hall 10, A82-38 (Page 628)

**Product Overview**

Qingdao Huarui Glass Products Co., Ltd.

glasstec.02.03.03

Matting/Supercalendering/etching/sand blasting technologies

**Product Details**

Qingdao Huarui Glass Products Co., Ltd.

glasstec.02.03.03

Matting/Supercalendering/etching/sand blasting technologies

**ANTI-REFLECTIVE GLASS**

Production :Anti-reflective glass is float glass with a specially designed coating which reflects a very low % of light. It offers maximum transparency and optical clarity, allowing optimum viewing through the glass at all times. The clarity of vision makes anti-reflective glass suitable for all applications where glass should be transparent. Exteriors: shop fronts and commercial frontages, glazing where vision is important, particularly at nighttime(panoramic restaurants, air traffic control towers, petrol station windows) etc. Interiors: high quality picture framing, display cabinets and interior display windows, dividing screens in cinema projection rooms, television studios, machine control rooms etc. Anti reflective glass is also called AR glass, "Low reflective glass", "non glare glass".



Its transmissibility can reach above 90%, and the reflectance can reduce to 1% below. AR glass is widely used in portable computer, the vehicle carrying the monitor, the industry measuring appliance as well as the picture frame, the touchscreen, the handset screen, the liquid-crystal display, the LCD/LED large screen, panel TV CRT, the back throws television PTV, television splicing wall DLP, etc. It can be installed in any kind of glass frame and the system. Our company specializes in AR glass, can produce thickness from 3mm to 8mm, size from 200\*200mm to 2134mm\*2440mm.

**Features** Virtually no reflections Conventional glass reflects about 8% of light. This results in an undesirable mirror effect. With optical interference coated anti-reflective glass, reflections are reduced to approx. 1%. In other words, they disappear almost completely. Maximum transparency Normal glass allows for light transmission of only 91%. This figure increases to 99%. In other words, are nearly invisible under normal viewing circumstances. The result: the brilliance of colors in works of art is reproduced without any losses in quality.

**UV radiation protection** All types of glass reduce UV radiation by absorption and/or reflection. Depending on the level of protection required, different versions of these products are available.

#### LOW-E GLASS

**Production:** Low-emission glass (Low-E) is a clear glass, it has a microscopically-thin coating of metal oxide. This allows the sun's heat and light to pass through the glass into the building. At the same time it blocks heat from leaving the room, reducing heat loss considerably. On-line coated (pyrolytic process): this is a clear glass which has been coated with a metal oxide through pyrolysis when the glass leaves the tin bath (at 650°C). The coating is therefore very resistant to mechanical damage, and this Low-E glass can be cut, tempered or laminated just as normal uncoated glass.

**Features** □ High efficiency in energy saving and environment protection. It is an efficient energy saving building material because of its high performance in heat insulation. Wonderful performance in visible light transmission. Stable chemical performance. It can be used as a single layer or may be stored for a long period of time for further processing. Stable performance in thermal processing. It is easy to be further processed for tempering, thermal bending or insulating. Stable mechanical performance for solid coat, high abrasion and scratch resistance.

**Specification** □ Thickness □ 4mm 5mm 6mm 8mm Specs □ 2200\*3050 2440\*3050 2134\*3048 2900\*3660 2200\*3300 2440\*3300 2134\*3300 2900\*4200

#### REFLECTIVE GLASS

**Production:** This is an ordinary float glass with a metallic coating to reduce solar

heat. This special metallic coating also produces a mirror effect, preventing the subject from seeing through the glass. It is mainly used in facades. Production Pyrolytic (On-Line): in this process, semi-conducted metal oxides are directly applied to the glass during the float glass production while the glass is still hot in the annealing lehr. These are hard coatings which are relatively harmful to the environment. The glass can be cut, bent, tempered, heat strengthened and laminated without affecting the coating.

**FEATURES:** 1) High visible light transmitting rate, low reflecting rate, low radiating rate 2) Avoid the light pollution and build good ecological environment. 3) Control solar energy radiation effectively, block far infrared radiation, save expenses of air conditioners in summer, save heating expenses in winter, have good effect of heat preservation and energy saving.

**SPECIFICATION:** Color: Euro Bronze, Golden Bronze, Euro Gray, Dark Gray, French Green, Dark Green, Light Blue, Dark Blue, Pink, Silver etc. Thickness: 3mm-10mm Sizes: 1524x2134mm, 1830x2440mm, 2140x3210mm, 2134x3300mm, 2250x3210, 2250x3300mm etc

#### SANDBLASTED GLASS

**Production:** This is produced by spraying sand at high velocities over the surface of the glass. This gives the glass a translucent surface, which is usually rougher than that obtained by etching. During sandblasting, only the areas that are to remain transparent are masked for protection. The depth and degree of the translucency of the sand-blasted finishing vary with the force and type of sand used. Sand-blasted glass can be used in numerous interior design applications in both residential and commercial settings: doors, shower screens, partitions and interior screens, furniture, etc.

**SPECIFICATION:** Color: Clear, Bronze, Blue, Green, Grey, silver mirror, ultra-clear, ultra-clear mirror etc. Thickness: 3mm-12mm. Size: 3300x2250, 3300x2134, 3048x2134, 2440x1830, 2200x1650, 2134x1650

#### TINTED FLOAT GLASS

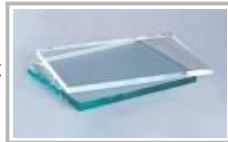
**Production** □ It is a normal clear float glass into whose melt colorants are added for tinting and solar-radiation absorption properties. This reduces heat penetration in buildings. Colored glass is an important architectural element for the exterior appearance of facades. It is also used in interior decoration (doors, partitions, staircase panels, mirrors, ...). Production is the same as in float glass production. The only variation is the colorants mixed at the beginning with the standard raw materials. Different additives may produce differently colored glasses. Common colours include grey, green, bronze and blue.

**FEATURES:** 1 □ Reduced Light Transmission 2 □ Reduced Solar Heat Gain 3 □ Enhanced Aesthetics 4 □ Increase Design Flexibility

SPECIFICATION: Colors: French Green, Dark Green, Lake Blue, Dark Blue, Euro-Gray, Dark Gray, Euro-Bronze, Golden Bronze etc. Thickness: 3mm-12mm Sizes: 3300x2250, 330x2140, 3300x2134, 2440x1830, 2134x1524mm

### ULTRA-CLEAR FLOAT GLASS

Production: Ultra clear float glass is also called super-clear float glass, low iron float glass and high-transparent glass. A sort of high-quality, multi-functional glass with light transmittance of 91% or more, featured by highly smooth, nobleness and elegance. ultra-clear glass shows extraordinary talents in the building field, performing greatly in energy conservation and environmental protection. It is highly applied in construction and decorations. ultra-clear glass can be cut, tempered, laminated heat bented and so on. Besides it also can be coated, printed and figured on the surface.



FEATURES: 1. Excellent Crystal clarity 2. high light transmittance. 3. widely used, easily fabricated

SPECIFICATION: Thickness: 3-25mm Size: 1830x2440mm, 2134x3300mm, 2134x3660, 2250x3300mm, 2250x3660mm etc. maximum 3660x8000mm

### Qinhuangdao Yuntongglass Mech-Electro Technology Co., Ltd.

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Phone	+86 335 8501081-8033
Fax	+86 335 8501071/6910799
Internet address	www.yuntongglass.com
E-Mail	exp6@yuntongglass.com
Stand	Hall 11, G03 (Page 632)

### Product Overview

Qinhuangdao Yuntongglass Mech-Electro Technology...

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

### Product Details

Qinhuangdao Yuntongglass Mech-Electro Technology...

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

### Flat & Cross-bend Tempering Furnace



### RBB Brazzi Roberto SRL

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Phone	+39 0542 640-054
Fax	+39 0542 640-639
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E-Mail	rbb@rbbimola.com
Stand	Hall 16, A38 (Page 652)

### Product Overview

RBB Brazzi Roberto SRL

glasstec.02.01.02 Glass saws

**Product Details**

RBB Brazzi Roberto SRL

glasstec.02.01.02 Glass saws

**Drills**

RBB 670.2HM

Drill for concave and convex glass sheets.

RBB 1000.2H

Glass drill with manual regulation of diamond tool speed.

RBB 1065

Glass drill with automatic regulation of diamond tool speed.

**THE DIAMANTKING SERIES**

consists of automatic machines for the cutting of thick, bullet-proof and laminated glass sheets. The load-bearing structure is in hot-galvanised steel and is designed to eliminate the vibration that can alter cutting quality. Two independent rubber-lined conveyors allow the sheet to advance in the vertical cutting position.



The RBB cutting machine range includes units for vertical cutting only and two models for vertical and horizontal cutting.

Vertical cutting units:

DK 2400 DK 3600 DK 4000

These can be equipped, at the customer's request, with an automatic measuring unit featuring electronic control and display.

Vertical and horizontal cutting units:

DK 2400/VH DK 6000

The cutting head, mounted on a double slide, is driven by variable-speed motors: a pneumatic actuator switches its position from the vertical to the horizontal.

Powerful and reliable, these machines have been designed to provide high output rates with top-flight precision and quality. Cuts can be angled by means of a device which automatically shifts the columns on which the disk-holding shuttle slides. Rotation is displayed, degree by degree, up to 45°.

Transverse movement of the cutting head allows the blade to move away from

the glass when the cut is completed, thus reducing the time taken to return to the starting position.

All measurements are displayed electronically and the system is controlled by a PLC.

**REDWAVE - a trademark of BT-Wolfgang Binder GmbH**



Address	Mühlwaldstr. 21 8200 Gleisdorf Austria
Phone	+43 3112 8377-0
Fax	+43 3112 8377-2204
Internet address	www.redwave.at
E-Mail	office@redwave.at
Stand	Hall 15, A13-A (Page 648)

**Product Overview**

REDWAVE - a trademark of BT-Wolfgang Binder GmbH

glasstec.01.03.09	Colour sorting (cullet)
glasstec.01.03.06	Cullet preparation
glasstec.02.12.01	Treatment of used glass
glasstec.01.03.07	Refuse collection and glass recycling

**Product Details**

REDWAVE - a trademark of BT-Wolfgang Binder GmbH

glasstec.02.12.01

Treatment of used glass

**REDWAVE IR**

The REDWAVE IR is an optical sorting machine for glass recycling. In the first step this sorting machine separates ceramics, stones, porcelain, ferrous and non-ferrous metals from the recyclable material stream. This glass sorting machine is fed over the entire sorting width with a constant material flow by means of a vibration feeder.

Sensor systems:

Infrared-Transmission-Technology

Machine datas:

Sorting width 900 mm Cullet size from 8 to 50mm 36 Valve with 144 air jets  
 Capacity: 6-8 tph (depending on the cullet size)

**Reinhardt-Technik GmbH & Co.**

Address	Waldheimstr. 3 58566 Kierspe Germany
Phone	+49 2359 666-0
Fax	+49 2359 666-129
Internet address	www.reinhardt-technik.de
E-Mail	info@reinhardt-technik.de
Stand	Hall 17, A53 (Page 656)

**Product Overview**

Reinhardt-Technik GmbH & Co.

glasstec.02.08.01

Complete plant for insulating glass production

glasstec.02.08.03

Production equipment for insulating glass frames

glasstec.02.08.06

Sealing techniques

**Product Details**

Reinhardt-Technik GmbH & Co.

glasstec.02.08.03

Production equipment for insulating glass frames

**Ecostar 250**

Ausgereifte Technik in Verbindung mit einem günstigen Preis macht diese Isolierglasmaschine zum Star.

Die ECOSTAR-250 ist für den engsten Einsatzraum konzipiert.

Hohe Betriebssicherheit und große Wartungsfreundlichkeit unterstreichen das hohe Qualitätsniveau genauso wie die benutzerfreundliche Handhabung. So wird z.B. der Faßwechsel durch die Neukonzeption der Faßaufnahme wesentlich erleichtert.



Eine spezielle Konstruktion der Folgeplatte ermöglicht es, das Materialfaß bis auf eine minimale Restmenge zu entleeren.

Der ökonomische hydraulische Antrieb der Dosierpumpen gewährleistet eine gleichbleibende gute Ausstoßleistung bei geringer Geräuschbildung.

Zusätzlich zu der umfangreichen Grundausstattung können Sie Ihre Anlagen durch Auswahl von Zusatzoptionen individuell auf Ihre Bedürfnisse anpassen.



## Rjukan Metall Masin OG Profil A/S

Address	Svaddeveien 168 3660 Rjukan Norway
Phone	+47 350 801-50
Fax	+47 350 801-62
Internet address	www.rjukan.com
E-Mail	rjukan@rjukan.com
Stand	Hall 14, B24 (Page 644)

### Product Overview

Rjukan Metall Masin OG Profil A/S

glasstec.02.08.03 Production equipment for insulating glass frames

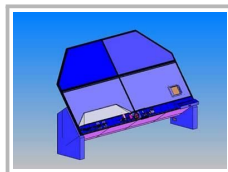
### Product Details

Rjukan Metall Masin OG Profil A/S

glasstec.02.08.03 Production equipment for insulating glass frames

#### MB550 series

The MB550 series has been developed to suit customers with heavy duty high output production. All electronic and pneumatic components are top of the range products selected from the best suppliers available..



The MB550 can produce any material in production on the market, Aluminium, steel, stainless and Thermix.

It has 2 bending-heads. Head1 for Aluminium steel and Thermix and Head2 for stainless steel.

Tool-changes:

Aluminium 6 to Aluminium 28 No tool change

Aluminium to Steel No tool change

Aluminium to Thermix No tool change

Aluminium to Stainless No tool change

Thermix <13 to Thermix >13 One tool change

Stainless to Stainless Tool change

Saws: The machine can be equipped with up to 3 saws

Software environment: Windows NT

#### MB750 series

Rjukan Metall is back with the latest evolution of the Masterbend. The MB750 Masterbend benefits from 18-years of design enhancements, driven by customer feedback, combined with the latest bending technologies. The ideology behind the MB750 was to produce a bending machine that combined the best elements of previous Masterbend incarnations, whilst incorporating the needs of today's market.



It is a return to the core fundamentals. Providing a bending machine that will produce high quality frames in volume, in a trouble-free manner day-after-day, year-after-year.

The MB750 Masterbend offers unsurpassed productivity with a low cost of ownership. Aggressively priced at purchase, the spare part cost is extremely low when compared to current market competitors.

The Windows-based user interface is intuitive, offering effective simplicity during production or when calibrating the Masterbend.

The MB750 Masterbend can be manufactured to cater for aluminium, steel, stainless steel or synthetic profile frame production.

### Metall DF10X

The DF100 is our desiccant filler for filling through one open corner. With this type of dispenser it is very easy to check that the frame is full of desiccant. It can be used to fill more than one frame at a time on both of the filling heads. The machine is easily maintained and filled. It is timer controlled with a cycle time of about 20 seconds. It can work with desiccant with a bead size of up to 2.00 mm



## RK Siebdrucktechnik GmbH

Address	Nußbaumweg 31 51503 Rösrath Germany
Phone	+49 2205 949970
Fax	+49 2205 9499777
Internet address	www.rk-siebdruck.de
E-Mail	info@rk-siebdruck.de
Stand	Hall 12, D65-1 (Page 636)

### Product Overview

RK Siebdrucktechnik GmbH

glasstec.02.03.08.01.01 Screen printing techniques

### Product Details

RK Siebdrucktechnik GmbH

glasstec.02.03.08.01.01 Screen printing techniques

### RKS HQ, HIGH QUALITY FOR PRINTERS

Mit der RKS HQ Qualität reagieren wir auf die stetig wachsenden Anforderungsprofile der Siebdruckindustrie an uns, einen der führenden Rakelhersteller weltweit.

Verbesserte, explizit für die Druckindustrie modifizierte Polyurethane, ermöglichen es RKS mit der RKS HQ Qualität eine Produktgruppe zu generieren, die den heutigen hohen Anforderungen der Siebdruckindustrie gerecht wird.

MERMALE:

- Verbesserte, für den Siebdruck abgestimmte Rezepturen
- Optimierte, kontrollierbare Fertigungsprozesse

Vorteile:

- höchstmögliche Beständigkeit bei dem Einsatz von UV – Farben
- extrem hohe Resistenz für den Druck mit lösemittelbasierten Farben
- bestmögliche Oberflächenbeschaffenheit
- hohe Quellbeständigkeit
- hervorragende Abriebfestigkeit
- niedrige Druckverformung
- extrem gute Verschleißbeständigkeit / Materialaufeigenschaften
- sehr gute Wärmestabilität

Ihr Nutzen:

- extrem hohe Standzeiten, gerade bei dem Einsatz von UV – Farben
- höhere Rakelgeschwindigkeiten
- perfekte Druckergebnisse, gleichbleibend gute Druckqualität
- reduzierter Wartungsaufwand
- Kosteneinsparungen durch weniger schleifen, Rakelwechsel und Druckunterbrechungen

## Roland DG Benelux N.V.

Address	Houtstraat 3 2260 Oevel Belgium
Phone	+32 14 575911
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Internet address	www.rolanddg.eu
E-Mail	info@rolanddg.be
Stand	Hall 12, D65-3 (Page 636)

### Product Overview

Roland DG Benelux N.V.

glasstec.02.03.08.02 Digital printing technology

### Product Details

Roland DG Benelux N.V.

glasstec.02.03.08.02 Digital printing technology

#### VersaCAMM VS-640

Metallic und Weiß, drucken und schneiden, Geschwindigkeit und Qualität ... die Möglichkeiten des VersaCAMM VS-640 sind nahezu unbegrenzt. Mit diesem Gerät stellen Sie unter anderem glanzvolle Poster, Aufkleber, Transfers für Textilien, Fahrzeuggrafiken, Banner und Etiketten mit prächtigen Metallicfarben her. Das 1,60 m breite Gerät kann mit vier, sechs oder acht Farben bestückt werden. Wählen Sie die Farbkombination, die am besten zu Ihnen passt!

Der VersaCAMM VS-640 ist Roland DGs bisher größter und vielseitigster Drucker/Schneideplotter. Das Gerät kombiniert die fortschrittlichste Druckkopftechnik mit dem renommierten Roland Druck- & Schneidesystem. Eine neue Roland Metallicfarbenbibliothek umfasst eine Reihe von 512 Metallic- Farben inkl. Gold, Bronze und eine breite Palette an Perlglanzfarben. Der VS-640 kann auch über eine fortschrittliche Aufwickelvorrichtung für unbeaufsichtigte Produktionsläufe verfügen. Zusammenfassung: 64" (1.6m) breiter Drucker/Schneideplotter, vollständig optimiert für Metallic- und Weißfarben-Anwendungen

Bis zu acht verschiedene Farben ECO-SOL MAX-Tinte\*1

Nutzer können aus drei Tintenkonfigurationen wählen \*1:

CMYKLcLm+Mt+W für die zusätzliche Verwendung von Silbermetallic und weißer Farbe

CMYKLcLmCM für verbessertes Blau und Rot, makellose Hauttöne und verbesserte Bildqualität bei helleren Farben

CCMMYYKK für Hochgeschwindigkeitsproduktion

Dichte, reiche Farben mit überragender Kratzfestigkeit

Kurze Trocknungszeiten, breite Farbpalette, Unterstützung für ungestrichene Medien

Beständigkeit im Freien bis zu drei Jahre für CMYK und Silbermetallic und ein Jahr für Weiß

Preisgekrönte DPI Silbermetallic ECO-SOL MAX-Tinte kombiniert mit CMYK für ein Spektrum neuer Metallic-Töne, inkl. Gold, Bronze und eine breite Palette an Perlglanzfarben \*2\*3

Auswahl aus 512 Metallic-Farben in der Roland-Farbsystembibliothek

Rolands fortschrittliches Tintenzirkulationssystem verhindert das Absetzen von Pigmenten in Metallic- und weißen Tinten und erfordert keinen manuellen Eingriff

Beruhet auf einer neuen Generation der Druckkopftechnik für unerreichte Druckqualität und Vielseitigkeit

Die neuen Druckköpfe feuern Tröpfchen in sieben verschiedenen Größen mit unübertroffener Genauigkeit.

Neue variable Tröpfchentechnik positioniert die Tröpfchen automatisch, um wundervolle stufenlose Farbübergänge zu gewährleisten.

Kompatibel mit einer breiten Palette an Medien, inkl. Vinyl, PET-Film, Leinwand, Papier, transparenter Film und Banner.

Höchste Auflösung: 1440 dpi

Höchste Druckgeschwindigkeit: 23.1m<sup>2</sup>/h bei CMYK-Grafiken

Option: Aufwickelsystem

Für unbeaufsichtigte Produktion

Bewältigt Medienrollen von bis zu 30 kg

Roland OnSupport erlaubt Fernverfolgung der Produktionskapazitäten, sodass Nutzer den VS-640 unbeaufsichtigt arbeiten lassen können.

\*1 Tintenkonfiguration (entweder 8, 6 (CMYKLcLm) oder 4 Farben (CMYK)) ist beim Kauf auszuwählen.

\*2 Der Glanz der Metallicfarben hängt vom verwendeten Druckträger ab. Vor Beginn der Produktion wird ein Testdruck auf jedem Substrat empfohlen.

\*3 Bei Grafiken für den Innen- u. Außenbereich wird eine Laminierung empfohlen, um die Metallicfarben vor Kratzern zu schützen.

## Rollmac

Address	Via Postale Vecchia, 77 36070 Trissino / VI Italy
Phone	+39 0445 490618
Fax	+39 0445 490111
Internet address	
E-Mail	
Stand	Hall 16, A41 (Page 652)

## Product Overview

Rollmac

glasstec.02.03.08.04	Other printing technology
glasstec.02.06.02	Enamel glass machines, screen printers, thermal pressure equipment
glasstec.02.06.05	Dryers and decorating technology

## Product Details

Rollmac

glasstec.02.03.08.04 Other printing technology

### Machine for the coating and design printing of rubber sheets



Rubberstar is a brand new machine, suitable to the coating and design printing of rubber sheets by means of an engraved cylinder.

The machine is made up of two elements, the main machine and the basculating introduction belt.

It features advanced solutions such as oscillating colour blades made by an extremely rigid structure to allow a vibration free operation. The blades are pneumatically driven with an uniform and precise movement in order to avoid their rectification due to their uneven wearing out and to allow their automatic smooth positioning at the cylinder change.

The engraved cylinders are mounted on a revolving support, liftable by pneumatic pistons for their quick change.

The centesimal regulation of working thickness is motorised by a digital control with visual display on the command board.

The geometry of the rubber conveyor belt assures a perfect alignment and a constant planarity. Its belt pulling group is set on the back return cylinder in order to avoid any vibration. The replacement of the belt is easy and rapid since the whole group composed of the transportation belt and inside cylinders is extracted frontally.

### WORKING POSSIBILITIES

REVERSE engraved cylinder: any product covering and varnishing. SYNCHRO engraved cylinder: design effects.

glasstec.02.06.02

Enamel glass machines, screen printers, thermal pressure equipment

### Machine for the enamelling and design printing of float glas

Starglass is a brand new machine, suitable to the enamelling and design printing of glass sheets by means of an engraved cylinder.



The machine is made up of two elements, the main machine and the introduction belt mounted on rails.

It features advanced solutions such as oscillating colour blades made by an extremely rigid structure to allow a vibration free operation. The blades are pneumatically driven with a uniform and precise movement in order to avoid their rectification due to their uneven wearing out and to allow their automatic smooth positioning at the cylinder change.

The engraved cylinders are mounted on a revolving support, liftable by pneumatic pistons for their quick change.

The centesimal regulation of working thickness is motorised by a digital control with visual display on the command board.

The geometry of the rubber conveyor belt assures a perfect alignment and a constant planarity. Its belt pulling group is set on the back return cylinder in order to avoid any vibration. The replacement of the belt is easy and rapid since the whole group composed of the transportation belt and inside cylinders is extracted frontally.

#### WORKING POSSIBILITIES

REVERSE engraved cylinder: any product covering and varnishing.

SYNCHRO engraved cylinder: design effects.

## ROLLTECH A/S



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Fax	+45 9233311
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E-Mail	info@rolltech.dk
Stand	Hall 16, C45 (Page 652)

### Product Overview

ROLLTECH A/S

glasstec.02.11.05      Spacers

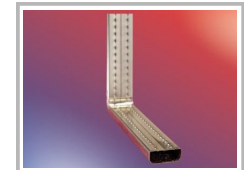
### Product Details

ROLLTECH A/S

glasstec.02.11.05      Spacers

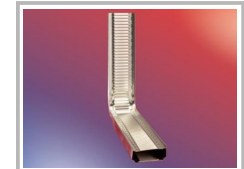
#### CHROMATECH

The WARM EDGE spacer

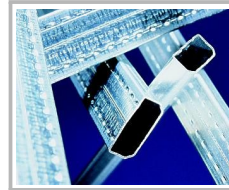


#### CHROMATECH plus

The WARM EDGE spacer



**FERROTECH**



**Rudi KNOPP Maschinen GmbH**

Address	Niedenbach 47 72229 Rohrdorf Germany
Phone	+49 7452 91995-0
Fax	+49 7452 91995-29
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Stand	Hall 12, B30 (Page 636)

**Product Overview**

Rudi KNOPP Maschinen GmbH

glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges

**Product Details**

Rudi KNOPP Maschinen GmbH

glasstec.02.02	Drilling technology
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**Glasbohrmaschinen**

Einseitige-  
Glasbohrmaschinen

Doppelseitige-  
Glasbohrmaschinen  
Vertikale Doppelseitige-  
Glasbohrmaschinen  
Kühlwasser +  
Umwälzeinrichtungen

glasstec.02.03.01.01 Grinding techniques for straight edges

**Schleifbär-N/II**

mit zweiter Schleifstelle für Flachglas  
sowie mit Randschleifgerät

**SAATI S.p.A.**

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Fax	+39 031 933392
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**Product Overview**

SAATI S.p.A.

glasstec.02.03.08.01.01 Screen printing techniques

glasstec.02.03.08.01.04 Other screen printing machines

glasstec.02.11.08.07 Other chemicals

glasstec.03.10.03.02.09 Screenprinting, framing, painting and texturing tools

**Product Details**

SAATI S.p.A.

glasstec.02.03.08.01.01 Screen printing techniques

**Vitrum HHU Blue**

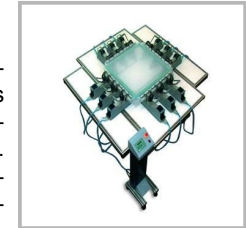
Saatichem has the pleasure to present its revolutionary dual cure emulsion Vitrum HHU Blue, especially developed for automotive glass printing, architectural and decorative glass, appliance glass. This emulsion shows a calibrated balance between viscosity and solid content. Selected viscosity guarantees an easy coating on typical fabrics used in glass printing, while high solid content offers a superb build-up. The final result is an excellent surface planarity stencil (low Rz value) that offers best printing quality, together with high solvency, water resistance and pondered flexibility level, as requested from end-users.



Furthermore, our emulsion is not only characterized by high smoothness level, but also by uncommon surface slipperiness properties. Both contribute rendering Vitrum HHU Blue able to considerably reduce stencil stress during printing, preserving stencil and squeegees life, moreover eliminating jumping effect.

glasstec.02.03.08.01.04 Other screen printing machines

**TOP 14 Pneumatic Stretching System**



Thanks to the deep technical know-how of the screen-printing market, SaatiPrint produces quality instruments and equipments for measuring, checking and tensioning the fabric during the whole screen-printing process. The technical fabrics together with the specific professional instruments create a perfect combination between durability and high definition of the final product.

The Top 14 Clamp is a highly advanced, yet easy to use system, which achieves the highest recommended tensions more uniformly, without over-tensioning the corners. It provides the greatest stability of any system available. Among the most notable features of this premier stretching system is its independent or simultaneous warp/weft tensioning capability. Another great feature is a special pneumatic device that totally eliminates the contact between fabric and frame while allowing frame compression. The system manual control panel is ergonomically designed and allows continuous non-incremental adjustments on demand. All pneumatic connections offer quick release for rapid frame size changeover and system expansion. The electronic control panel allows operation in three modes: manual, semi-automatic and automatic.

## SAFINA, a.s.



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Fax	+420 241 024 292
Internet address	www.safina.cz
E-Mail	info@safina.cz
Stand	Hall 13, F63 (Page 640)

### Product Overview

SAFINA, a.s.

glasstec.02.06.08	Sputtering targets for glass coatings
glasstec.02.11.02	Replacement and spare parts
glasstec.02.12.02	Treatment of auxiliary materials
glasstec.05.01.01.05	Measurement and control of glass temperature

### Product Details

SAFINA, a.s.

glasstec.02.06.08	Sputtering targets for glass coatings
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#### Targets

SAFINA, a.s. has been known as an experienced and reliable producer of precious metals and even product line Targets utilizes its tradition. Sputtering target production is mainly typical sophisticated production with high level of innovations and progress potential. This relatively young technology continually evolves with assistance of new elements (new materials, new utilization possibilities, sputtering machines, new target types and shapes etc.).

Sputtering targets are mainly used in following industrial processes:

- Metal coatings production
- Production of technical and decorative metallized glass
- Production of optical discs (CD, CD-R, CD-RW, DVD)
- Application of thin metal layers in electric and automotive industry
- Hard-metal layers

Currently, SAFINA, a.s. produces planary and circular targets from precious and basic non-ferrous metals complementing its range of products with bonded targets. All targets are based on customer's requirements and supplied drawings.

Planary targets:

- Au and Ag targets up to 4N purities
- Pt and Pd targets in the form of sheets
- Targets from high-melting metals (Cr, Nb, Ni, NiV, Ti, Zr etc.)
- Targets from other non-ferrous metals (Al, Cu, Zn etc.)
- Simple, folded or bonded targets of various shapes and profiles
- Main utilization in metallized glass production

Circular targets:

- Ag targets with 4N purity
- Ag alloy targets for DVD production
- Targets from Al and CuAl alloys
- Main utilization in optical discs industry

Here you can view the samples of the circular targets

Bonded targets:

- Pt circular bonded targets on Cu backing plate
- Planary Au and Cr targets bonded on Cu backing plate
- Services in target bonding and soldering



## Schiatti Angelo S.r.l.



Address	Via alla Porada, 188 20038 Seregno / MB Italy
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E-Mail	info@schiattiangelosrl.com
Stand	Hall 16, D21 (Page 652)

### Product Overview

Schiatti Angelo S.r.l.

glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.03.07.12	Worked flat glass (general)

### Product Details

Schiatti Angelo S.r.l.

glasstec.02.02 Drilling technology

#### Drilling centres

Born to satisfy a specific request the CFL drilling centre has turned out a great success. The main machine feature is its versatility to meet customer's requirements, in fact it can be manufactured for particular requirements of thickness, nr. Of heads, distance between heads, hole diameter and maximum glass dimension upon request.

The complete structure is composed of a motorized inlet conveyor, a drilling centre (main body) and a motorized outlet conveyor. Glass is loaded onto the inlet conveyor by a suitable means of lifting/transport and it is automatically con-

veyed to the drilling centre. It stops against the front datum stop and it is aligned by a pneumatic cylinder system, held by a clamp and drilled. At the end of the drilling cycle the glass is automatically conveyed onto the outlet conveyor.

#### Mod. CFL4



The company also manufactures a range of glass drilling machines for every need with the possibility to be equipped with table, glass locator, tank and pump and laser centering device as optionals, the model. FPD60 is available both in automatic and semi automatic versions. An innovation on this machine consists of a glass supporting table equipped with an automatic positioning device on the X and Y axes for fast location of glass sheets.

A PLC can store a number of programs depending on the number of holes to be made. Available with 2 - 3 - 4 opposing heads, the multi heads drilling machine mod. FPM can be supplied in three different versions: manual, motor-driven and automatic heads setting movements. The heads displacement is along the two X and Y axes independently from each other. The working cycle is automatic with the option of using each head individually.

glasstec.02.03.01.01 Grinding techniques for straight edges

#### Double edging machines and lines

The machines grind and polish simultaneously two sides of the glass sheets to obtain flat and arris or pencil profile on thicknesses between 2 to 20mm. This kind of machine is suitable for mass production. Depending on the model it is possible to choose: min and max workable dimension and nr. Of spindle per side. Several machine operations are carried out by the electronic card which is located on the control panel.

All the operating groups are fitted on a solid frame. Two assemblies are arranged at the inlet of the machine; one for the glass sheet squaring before grinding and the other to divide the amount of glass removed evenly on either side. A Complete grinding line made up of two grinding machines and a transfer table can also be supplied. When the machine is in-line it is possible to program from the first machine the interval for loading the glass sheets according to their size.

**Straight grinding machine**



Schiatti Angelo's production offers a complete range of straight edgers to process glass sheets from 3 to 55mm thick (jumbo sizes too). Depending on the model it is possible to choose: different edge profiles and thicknesses; min and max workable dimension; standard or cerium oxide polishing, variable angle mitre. Several machine operations are carried out by the PLC which is located on the control panel. The experience of over 30 years, the selection of materials careful assembly work and machine testing make the machines reliable and long lasting.

**SCHOLZ GmbH & Co. KG**

Address	Rottkamp 11 48653 Coesfeld Germany
Phone	+49 2541 745-0
Fax	+49 2541 82741
Internet address	www.scholz-maschinenbau.de
E-Mail	info@scholz-mb.de
Stand	Hall 15, A48 (Page 648)

**Product Overview**

SCHOLZ GmbH & Co. KG

glasstec.02.09.04      Autoclaves

**Product Details**

SCHOLZ GmbH & Co. KG

glasstec.02.09.04      Autoclaves

**complete autoclave plants**



Complete autoclave plants for the production of laminated safety glasses and windscreens for the complete product line

Incl. pressure and temperature control and all additional components such as air receivers, compressors, driers and various valves and fittings

Optional : autoclaves for doing the "HEAT SOAK TEST"

Design in acc. with PED, ASME Code and other international rules and regulations.

Diameters upto 6500 mm

Usable length and all operating parameters acc. to customers' specifications

Guaranteed homogeneity of temperature in the full usable area due to an optimized, glandless and maintenance-free fan in connection with a special arrangement of the heating

Heating electrical, indirect heating with steam or oil

Patented precooling for a precise guidance of cooling gradients

Maintenance-free air circulation fan

Interior insulation for energy saving

Process control by power failure safe programmer with visualization or PC in-house software development



## Schunk Kohlenstoff Technik

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Fax	+49 641 608-1223
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Stand	Hall 13, D49 (Page 640)

### Product Overview

Schunk Kohlenstoff Technik

glasstec.01.06.13	Moulds for glass production
glasstec.01.09.01	Transport systems
glasstec.01.09.02	Stacker systems
glasstec.02.11.02	Replacement and spare parts
glasstec.04.04	Replacement part, wearing parts

### Product Details

Schunk Kohlenstoff Technik

glasstec.02.11.02	Replacement and spare parts
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### Hot Glass Handling

#### Hot Glass Handling

During the production process of glass, wherever hot glass is handled, it comes into contact with components made of other materials. The operational reliability

and the properties of these materials are decisive for an efficient and trouble-free production as well as for an excellent finish on the glass products.

This is why we manufacture such components out of carbon. Like no other material, carbon is suited for the applications in the glass industry, due to its unique properties.

- Carbon prevents surface checking in the glass because of its significantly lower thermal conductivity, compared to that of metals.

- Carbon does not leave any discoloration on the glass parts, due to its excellent chemical resistance.

- Carbon allows for long ligetimes of the handling components as a result of its outstanding resistance to high temperatures and oxidation.

For parts exposed to extremely high mechanical loads, Schunk Materials offers carbon fiber-reinforced materials.

## Shanghai Northglass Technology Industrial Co., Ltd.



Address	No. 328 Guanghua Rd., Songjiang Science 201614 Shanghai China (Rep.)
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E-Mail	rock@northglass.com
Stand	Hall 12, C73 (Page 636)

## Product Overview

Shanghai Northglass Technology Industrial Co.,...

glasstec.02.04 Forming and bending technology

glasstec.02.06.01 Vacuum coating equipment

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

## Product Details

Shanghai Northglass Technology Industrial Co.,...

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

### SM-1

SM-1 Horizontal Roller Hearth Flat

Glass Tempering Furnaces



Main purpose:

SM-1 Series Horizontal Roller Hearth Flat Glass

Tempering Furnaces are mainly used to produce flat tempered glass for architectural, vehicle and domestic appliance applications.

Main technical features:

Glass sheet size:

Maximum size 3500mm; 12000mm, minimum size 60mm; 100mm.

Advanced heating methods:

Radiation / convection matrix heating optional with intelligent heating control system.

Easy operation:

whole-procedure, auto-control system with self-diagnosis and fault-detecting system, user-friendly interface.

Low installed power capacity:

The heating & cooling systems are designed to avoid high peak power consumption and to reduce the total power installed.

Full parameter storage:

Computer-stored glass-type parameter recipes for full range of glass types.

Minimized power consumption:

The insulating material and unique furnace design save much energy and guarantee minimum power consumption.

Broad applicability:

Low-E glass, coated-glass, patterned glass, tinted glasses and all other glasses.

High-quality end product:

Up to ECE R43, ANSIZ97.1 GB9963, 9656 standards.

## Shenzhen Juisun Screen Printing Machinery Co., Ltd.

Address	Zheyuanpu Industry Area, Jiuwei 518126 Baoan District, Shenzhen China (Rep.)
Phone	+86 755 29975778
Fax	+86 755 27779067
Internet address	www.juisun.com
E-Mail	sales@juisun.com
Stand	Hall 10, A04-9 (Page 628)

### Product Overview

Shenzhen Juisun Screen Printing Machinery Co.,...

glasstec.02.03.08.01.04 Other screen printing machines

### Product Details

Shenzhen Juisun Screen Printing Machinery Co.,...

glasstec.02.03.08.01.04 Other screen printing machines

### FULLY AUTO GLASS SCREEN PRINTING MACHINE

This machine is suitable for printing on the architectural glass. There are two operation models: automatic and manual, the operation is convenient and the machine can be controlled part by part. \* Adopt imported synchro anti-sliding up/down conveyor, which makes the conveying stable, less noisy and durable, the original design makes the assemble and adjustment of conveyor belt convenient and easy to maintain. \* Double origination makes sure the contraposition of various shapes of glass is precise. Even pressure and automatic compensation system ensure the fine and precise printing. \* Adopt imported linear sliding rail and synchro toothed belt for the drive which ensure stable operation and realize continuous speed variation. | Adopt PLC system to control system. \* Adopt automatic alarm system and pneumatic mechanical safe protection device to ensure safe operation.



## SIMTECH

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E-Mail	info@simtech.be
Stand	Hall 11, G43 (Page 632)

### Product Overview

SIMTECH

glasstec.02.09.02.01 Laminated glass technology with foil for architectural glass

glasstec.02.09.02.02 Laminated glass technology with foil for automotive glass

### Product Details

SIMTECH

glasstec.02.09.02.01 Laminated glass technology with foil for architectural glass

### Flexlam - Glass Laminating Solutions

Simtech designs, manufactures & supplies global solutions for the glass lamination (automotive, architectural, safety, etc.) comprising ovens, trolleys, vacuum pumps, re-usable vacuum rubber bags & accessories.

FR: Simtech conçoit, fabrique & commercialise des solutions complètes pour le feuilletage du verre (lamination) automobile, architectural, de sécurité, etc., comprenant étuves, chariots, pompes à vide, poches à vide réutilisables en caoutchouc et accessoires.res.

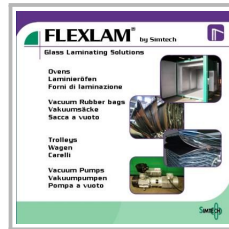


glasstec.02.09.02.02 Laminated glass technology with foil for automotive glass

**Flexlam: Glass Laminating Solutions / Flexgrip: pick&place**

Simtech designs, manufactures & supplies global solutions for the glass lamination (automotive, architectural, safety, etc.) comprising ovens, trolleys, vacuum pumps, re-usable vacuum rubber bags & accessories.

FR : Simtech conçoit, fabrique & commercialise des solutions complètes pour le feuilletage du verre (lamination) automobile, architectural, de sécurité, etc., comprenant étuves, chariots, pompes à vide, poches à vide réutilisables en caoutchouc et accessoires.



**SKLOPAN LIBEREC, a.s.**



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**Product Overview**

SKLOPAN LIBEREC, a.s.

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.02	Grinding techniques for patterned glass
glasstec.02.03.01.03	Grinding techniques for formed glass
glasstec.02.03.02.02	Surface grinding for moulded glass
glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies
glasstec.02.03.05	Polishing technology
glasstec.02.03.06	UV edge taping technology
glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.02.10.01	Washing machines and equipment
glasstec.03.01.14	Glass facets
glasstec.03.10.01.01.07	Machinery/tools

glasstec.03.10.01.04.03 Foils

glasstec.03.10.03.01.04 Etching lubricants

glasstec.05.01.01.01 Measurement and control of glass position detection

glasstec.06 Contracting, consulting, engineering, services

### Product Details

SKLOPAN LIBEREC, a.s.

glasstec.02.02 Drilling technology

#### Manually operated glass drilling machines.



glasstec.02.03.01.01 Grinding techniques for straight edges

#### Abrasive-band grinding machines for glass.



### Smart-Builder



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### Company News

Smart-Builder

#### 08/13/2010 Security Breach at Smart-Builder Head Office, Pre-Release Images Leaked!

Smart-Builder's development team is so proud of their recent work that images have been leaked onto the web before its official release. This is a taste of what Smart-Builder users can expect when they receive their update.

Curved Balustrade and Railing Images Leaked! Smart-Railing and Smart-Balustrade users will be able to create sleek looking curved glass railings and balustrades. Supporting curved glass in these design modules opens up a new range of design possibilities and the 3D images on quotes will help seal those deals.

Smart-Toolbox users will be able to add coating to the glass from within the Shower, Shopfront, Railing and Balustrade design screens. The coating could be a transparent protective coat or it could be a visible coating such as silkscreening or painting, and if it's not a transparent coating, it even shows up on the 3D drawing!

Smart-Toolbox users can also expect to be able to design structures using custom laminated glass. This feature allows the user to specify that panels should be produced as a custom laminate where the panes and interlayers are custom

selected.

Funky Shower Coatings, Oh, The Possibilities! For more information or an online demonstration, contact Smart-Builder UK at +44 (0) 20 8568 2232 or Smart-Builder NZ at +64 (0) 9 968 4222, or email us at [info@smart-builder.com](mailto:info@smart-builder.com).

#### 08/26/2010 Smart-Builder iPad giveaway

Software company Smart-Builder, are giving away free Apple iPads to new customers signing at Glasstec where German speaking staff and resellers will be on hand.



The stunning iPad is known for its innovative design, crisp images and ease of use; characteristics which Smart-Builder's software has also been praised for, making iPads the perfect incentive for visitors to the stand.

Smart-Builder are returning to Glasstec with the latest version of their award winning software, which makes it easier to sell glass and glass related products. The software will also design and estimate showers, shopfronts, partitions and balustrades. These are added to quotes, with attention grabbing 3D, alongside glass, double glazing, mirrors and other merchandise.

Have you been thinking about using software to look more professional, save time or increase sales? Perhaps you want to design showers in under a minute? If so, then come and see Smart-Builder, hall 10, stand A59. The iPad will make a sweet deal even sweeter.

For more information about Smart-Builder visit [www.smart-builder.com](http://www.smart-builder.com), email [info@smart-builder.com](mailto:info@smart-builder.com) or for our German reseller phone +49 (0) 7404-914 440

#### 05/18/2010 Smart-Builder prepares for Glasstec 2010

Smart-Builder will once again be attending the biennial Glasstec trade fair that will be held from September 28th to October 1st 2010 at Messe Düsseldorf. The staff at Smart-Builder are now working hard on a lot of new features to show off at Glasstec. Some of the new features that will be demonstrated at Glasstec include,

- Stock management and bulk glass update for Smart-Toolbox
- Improved support for shower reinforcement bars
- Improved support for glass shelves and brackets for showers
- Support for transoms over fixed panels for shopfronts
- Support for full length piano hinges for showers
- Support for shopfront sliding doors
- Support

for curved balustrade panels

Smart-Builder's stand will be located in hall 10, stand A59, which is conveniently positioned on a corner next to the access way for neighbouring hall 9. If you are attending the show, then please come and visit our stand, where there will be knowledgeable staff members who can speak English, French, German, Dutch and Mandarin on hand to discuss and demonstrate our latest versions of Smart-Builder's award winning glass configurator software.

As part of the preparation for Glasstec, Smart-Builder is currently seeking resellers for the Smart-Builder range of software. Resellers who sign up before Glasstec have the opportunity to join us at our stand. The types of companies we seek cooperation with include:

- Software resellers
- Trading companies in the glass industry
- Consulting firms who deal with software implementation

If you are located in the Continent, South America, Middle East or Asia, and you are interested in this opportunity, please contact us by email at [info@smart-builder.com](mailto:info@smart-builder.com).

#### 09/06/2010 Réclamez votre iPad de Smart-Builder!

Société de logiciel Smart-Builder, va donner des Apple iPads aux nouveaux clients, qui s'y inscrivent à Glasstec 2010. Leur personnel francophone sera disponible sur le stand de Smart-Builder pour vous aider.



L' iPad sensationnel est bien connu pour son design novateur, ses images nettes et sa facilité d'utilisation; ce sont les mêmes les caractéristiques pour lesquelles Smart-Builder a également reçu des éloges. Comme cela l' iPad est l'incentive idéal pour les visiteurs au stand de Smart-Builder

Smart-Builder retourne à Glasstec avec la dernière version de leur logiciel couronné de succès, qui le rend plus facile à vendre du verre et de tels produits. De plus, le logiciel concevra et estimera les douches, les vitrines, les partitions et les balustrades. Tout cela sera ajouté au devis, avec des dessins 3D très attrayants, aussi bien que du verre, du double vitrage, des miroirs et d'autres marchandises.

Avez-vous fait déjà penser à utilise l'aide du logiciel pour obtenir un aspect plus professionnel, pour gagner du temps et pour accroître les ventes ? Peut-être souhaitez-vous concevoir des douches en moins d'une minute? Si c'est le cas, visitez Smart-Builder, hall 10, stand A59. Marchandise qui plaît est à demi ven-



due.

Pour en savoir plus visitez le site [www.smart-builder.com](http://www.smart-builder.com), ou envoyez un courriel à [info@smart-builder.com](mailto:info@smart-builder.com) ou téléphonez 0844 8099 337

### 08/30/2010 Smart-Builder geven Gratis Apple iPads weg!

Software bedrijf Smart-Builder, geven gratis Apple iPads weg aan elke nieuwe klant die Smart-Builder Software aankoopt op de Glasstec2010 beurs. De Smart Builder stand heeft voor hun klanten Nederlands sprekend personeel beschikbaar gesteld.



De prachtige iPad staat bekend om zijn innovatieve ontwerp, scherpe beelden en gebruiksgemak; kenmerken waarvoor Smart-Builder software ook bekend staat. Dit maakt de iPad het perfect aansporing voor stand bezoekers.

Smart-Builder keert voor de tweede maal terug naar Glasstec met de meest recente versie van hun bekroonde software, software dat de verkoop van glas en bijverwante produkten vergemakkelijkt. Dit bijzonder software ontwerpt en berekent douches, winkel puien, partities en balustrades. Deze informatie wordt dan toegevoegd aan prijsopgaven, samen met attentie verwekkende 3D beelden voor glas, dubbele beglazing, spiegels en andere bijverwante produkten.

Bent U erover aan het denken om software te implementeren om er professioneler uit te zien, tijd te besparen of uw omzet te verhogen? Misschien wilt u douches ontwerpen in minder dan een minuut? Is dit het geval; kom en breng ons dan een bezoek bij Smart-Builder, Hal 10, Stand A59. De iPad maakt een zoete deal zelfs zoeter.

Voor meer informatie over Smart-Builder bezoek [www.smart-builder.com](http://www.smart-builder.com), of email ons op [info@smart-builder.com](mailto:info@smart-builder.com) of bel naar 0844 8099 337

## Product Overview

Smart-Builder

glasstec.02.13.02	Software
glasstec.03.08.02.02	Tempered glass doors (general)
glasstec.03.10.01.01.01	Specialist construction (shower partition walls)
glasstec.03.10.01.01.02	Glass door systems
glasstec.03.10.01.01.03	Ballustrades
glasstec.03.10.01.01.06	Brackets and fittings
glasstec.03.10.01.05	Brackets, fittings and accessories
glasstec.05.03.01	MRP/CAD/CIM systems
glasstec.05.04	Software and applications for architects and planners

## Product Details

Smart-Builder

glasstec.02.13.02 Software

### Smart-Balustrade

Smart-Balustrade is a complete design and configuration package for frameless glass balustrades and barriers.



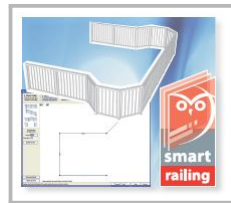
Smart-Balustrade handles the complete balustrade design process. Smart-Balustrade takes care of drafting and layout with a simple plan-view that accommodates complex 3-dimensional designs. Smart-Balustrade manages hardware choices, mountings, glass types and coatings, maintaining complete lists of glass details and hardware fittings. Smart-Balustrade then sees you through the process by calculating glass costs, preparing of quotes and installation sheets, and keeping records of structures, quotes and customers.

Smart-Balustrade offers lightning-fast design and quoting for even complex balustrades and barriers. Its large and fully-customisable hardware range can handle modern designs effortlessly, and its 3D rendering engine allows you to offer stunning demonstrations to your customers.

Save time and money with Smart-Balustrade: the world's leading balustrade design software.

### Smart-Railing

Smart-Railing is the complete solution for fast and accurate post-based railing design. Smart-Railing is ideal for aluminium or stainless steel railings with glass, picket and cable infills. It combines the latest drag and drop design interface with the ability to drill down to the smallest details of your configuration.



The strength of Smart-Railing is the ease with which it allows you to change the layout or style for your whole railing, while at the same time allowing you to drill down and override the tiniest details. Smart-Railing's sophisticated engine recalculates hardware and glass details after each change, keeping track of the details so you don't have to.

Smart-Railing sees you through the whole design process. Layout and design are handled using a straightforward yet flexible plan view. Smart-Railing handles curved and faceted sections and 3-dimensional designs with ease. Smart-Railing handles hardware and infill choice, then calculates sizes and quantities, generates extrusion cutting lists, glass costs, and finally produces quotes, complete with stunning 3D renderings of your railing, to give you the edge.

If you sell or install component railing systems then you must try Smart-Railing: the world's leading railing design software.

### Smart-Shopfront

Smart-Shopfront is a complete design system for frameless glass shopfronts and internal partitions. Smart-Shopfront handles the complete shopfront design process, from layout and drafting through to hardware selection, glass cost calculation and quoting.



The beauty of Smart-Shopfront is how flexible and responsive it is. As you drag new glass panels into position, alter measurements or change your mind about closer or locking methods, Smart-Shopfront automatically recalculates everything, adjusting the complete hardware list and glass details based on your selections and preferences. It couldn't be easier!

Smart-Shopfront ensures accuracy and speed by seeing the design process through from layout to quoting. Glass costs and orders, hardware lists and quotes are all generated seamlessly, accurately and at the touch of a button.

Smart-Shopfront is an indispensable tool for shopfront design: revolutionise your business today, with Smart-Shopfront.

### Smart-Shower

Smart-Shower is the world's leading configurator software for designing frameless glass showers, shower doors and shower screens. Smart-Shower is used across the world, with over one million showers configured to date.



Smart-Shower is a complete shower design and configuration solution, handling design, glass cost calculations, preparation of quotes and installation sheets, and record-keeping.

Smart-Shower's expert system ensures accurate and thorough calculations, minimizing waste. Showers can be designed from scratch in minute, with dimensions, clearances and glass costs all calculated at the touch of a button. Smart-Shower has no trouble handling modern shower features like rakes, cutouts, nibs and out-of-square panels. Smart-Shower renders your finished shower de-

sign in stunning 3D, for presentation to customers or addition to quote sheets.

Accuracy, cost-efficiency and timeliness are assured with Smart-Shower: the world's leading shower design software.

### Smart-Toolbox

Developed in close consultation with shower, shopfront and glass installation companies, Smart-Toolbox is a powerful customer and sales management tool for the glass industry.



The greatest strength of Smart-Toolbox is that it is a modern, customisable and easy to use system designed for real world glass installation companies. With advanced features like drag-and-drop scheduling, easy to use order tracking and on-the-fly sales analysis tools it provides tangible benefits and is even more valuable for any business which designs or installs glass showers, shopfronts or balustrades.

Smart-Toolbox has been designed to seamlessly integrate with our Smart-Shower, Smart-Shopfront, Smart-Railing and Smart-Balustrade design modules, allowing you to quote all of these directly alongside mirrors, splashbacks, windows and hardware.

### Softeco Oy

Address	Karvaamokuja 4 00380 Helsinki Finland
Phone	+358 10 4223002
Fax	+358 9 56815511
Internet address	
E-Mail	
Stand	Hall 12, C65 (Page 636)

#### Product Overview

Softeco Oy

glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.06	Contracting, consulting, engineering, services

#### Product Details

Softeco Oy

glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
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#### Silkscreen printing equipment range including

- # Manual and semi-automatic and fully automatic printers.
- # Different print sizes and capacities.
- # For silkprinting glass in automotive, architectural and other applications.

## SOFTSOLUTION GmbH

SOFTSOLUTION  
 MEET QUALITY EXCELLENCE

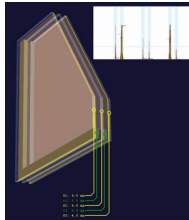
Address	Kapuzinergasse 6 3340 Waidhofen an der Ybbs Austria
Phone	+43 7442 53988
Fax	+43 7442 5398890
Internet address	www.softsolution.at
E-Mail	office@softsolution.at
Stand	Hall 15, F42 (Page 648)

### Company News

SOFTSOLUTION GmbH

#### 07/06/2010 **NOW inside the SOFTSOLUTION LineScanner: Glass Thickness and Coating Sensor**

A great and brand new feature for the Line Scanner is the glass thickness and coating sensor, which works fully integrated within the Line Scanner software. This new option is now offered and sold to customers since the Vitrum Show 2009. It is the latest master piece of engineering from Softsolution and can detect glass thickness as well as coating and coating side comfortably without touching the glass. If there is no connection to customers' production software, the default coating side can be configured within the Line Scanner master files. The Line Scanner software then finds the coating side and compares the result with the master file settings. If the coating is on the wrong side, the monitor software alerts the operators immediately by displaying an error message. If there is a full integration between customers' production software and the Line Scanner software via transfer file, all production data like glass thickness, coating and coating side are compared to real production data. In case of any differences, the monitor software alerts the operators immediately by displaying an error message as well.



The LineScanner system combines at least all functions in one hardware system – surface quality control, precision control, glass thickness, coating, bar code reader and in the near future a data matrix code interpreter.

### Product Overview

SOFTSOLUTION GmbH

glasstec.01.10.03	Inspection systems
glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
glasstec.02.13.02	Software
glasstec.03.04.04	Other accessories and services
glasstec.05.01.01.01	Measurement and control of glass position detection
glasstec.05.01.01.04	Measurement and control of glass thickness
glasstec.05.01.01.06	Measurement and control of speed
glasstec.05.01.02.01	Surface, contour and imperfection measurement and control
glasstec.05.01.03	Measuring devices to be used on site
glasstec.05.01.04	Detectors for laminated glass
glasstec.05.03.01	MRP/CAD/CIM systems
glasstec.05.03.02	Inspection, protocolling and diagnostic systems

- glasstec.05.03.03 Optimization systems for cutting and yield
- .....
- glasstec.05.03.04 Process control systems
- .....
- glasstec.05.03.05 Other control systems

**Product Details**

SOFTSOLUTION GmbH

glasstec.02.01.01.01 Cutting technology for float glass

**SOFTSOLUTION Virtual Digitizing & LineScanner**



Virtual Digitizing is our product to digitize templates and objects of any shape and size, just by using a digital picture. With an average accuracy of less than 1 mm for templates up to 3.5 meters, Virtual Digitizing is the unbeatable independent digitizing tool for industrial use.

Virtual Digitizing can be used directly in your plant to digitize templates as well as directly at the construction area, so that creating templates is no longer needed.

The LINE SCANNER is able to measure and identify glass with a resolution of 400 dpi (0.0635mm) including the possibility to check drill hole or cut-out it exists as a horizontal or vertical unit. Current applications include installations at tempering furnaces (measure and identify glass and display the result at the furnace exist including the possibility to print labels online (label-less production). Other applications include measuring and quality control at an IG line (vertical scanner).

glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

**SOFTSOLUTION LineScanner**



SOFTSOLUTION presents the most innovative solution for glass detection as an in-line process – LineScanner!

Engineered and developed by SOFTSOLUTION in Austria!

LineScanner represents a new standard in efficient and accurate quality control and measuring technology. This system is able to check the glass quality regarding measurements and surface defects like scratches, chips, inclusions etc., based on a modular technology which allows flexibility for future changes.

Two functions are covered with just one machine. This makes this system unique!

glasstec.02.13.02 Software

**SOFTSOLUTION SCAD**



Softsolution CAD System

Basic CAD requirements easy to use. SCAD includes the following functions:

full integration to the whole product range of Softsolution independence because of dxf usage automatic auto corner function grinding addition, parallel moving lines, splines and arcs standard shapes, 3 point arcs and circles dimensioning tool printing trims help cuts round corners

### Advantages

userfriendly and easy to use graphic interface quick and easy access to the most used functions of SCAD throughout favorite definition for tools

### Sogelub S.A.



Address	13, Rue de la Terre a Briques 7522 Marquain Belgium
Phone	+32 69 590949
Fax	+32 69 214474
Internet address	www.sogelubglass.com
E-Mail	contact@sogelub.com
Stand	Hall 14, A02 (Page 644)

### Product Overview

Sogelub S.A.

glasstec.01.02.03	Lubricators and coolants
glasstec.02.11.08.02	Chemical grinding and polishing materials
glasstec.02.11.08.03	Chemical coolants
glasstec.02.11.08.04	Chemical rust prevention agents

glasstec.02.11.08.05 Chemical protection material for glass

glasstec.02.11.08.06 Chemical cleaning agents

### Product Details

Sogelub S.A.

glasstec.02.11.08.02 Chemical grinding and polishing materials

#### Chemische Industrie

In der chemischen Industrie liegt die Hauptschwierigkeit im Vorhandensein aggressiver Wirkstoffe, deshalb müssen Schmiermittel verwendet werden, die beständig sind gegenüber :

\* alkalischen pH-Werten, \* sauren pH-Werten, \* aggressiven Elementen (Chlor, Benzol, Toluol, Erdöl usw.).

Die Fette der Produktreihe STABIGREASE® sind bei diesen Problemstellungen eine gute Lösung. Sie sind tatsächlich völlig unempfindlich gegenüber alkalischen -, sauren pH-Werten und anderen aggressiven Wirkstoffen, da sie außergewöhnlich haltbar sind und dadurch die Schmierintervalle reduzieren.

glasstec.02.11.08.04 Chemical rust prevention agents

#### Chemische Industrie

In der chemischen Industrie liegt die Hauptschwierigkeit im Vorhandensein aggressiver Wirkstoffe, deshalb müssen Schmiermittel verwendet werden, die beständig sind gegenüber :

\* alkalischen pH-Werten, \* sauren pH-Werten, \* aggressiven Elementen (Chlor, Benzol, Toluol, Erdöl usw.).

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glasstec.02.11.08.05 Chemical protection material for glass

#### Chemische Industrie

In der chemischen Industrie liegt die Hauptschwierigkeit im Vorhandensein aggressiver Wirkstoffe, deshalb müssen Schmiermittel verwendet werden, die beständig sind gegenüber :

\* alkalischen pH-Werten, \* sauren pH-Werten, \* aggressiven Elementen (Chlor, Benzol, Toluol, Erdöl usw.).

Die Fette der Produktreihe STABIGREASE® sind bei diesen Problemstellungen eine gute Lösung. Sie sind tatsächlich völlig unempfindlich gegenüber alkalischen -, sauren pH-Werten und anderen aggressiven Wirkstoffen, da sie außergewöhnlich haltbar sind und dadurch die Schmierintervalle reduzieren.

## Solutia Europe



Address	Parc Fleming, Rue Laid Burniat 3 1348 Louvain la Neuve Belgium
Phone	+32 10 481211
Fax	+32 10 481111
Internet address	www.saflex.com
E-Mail	
Stand	Hall 11, A58 (Page 632)

### Product Overview

Solutia Europe

glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
glasstec.03.02.02.01	Laminated safety glass
glasstec.03.02.02.04	Laminated glass (other)

### Product Details

Solutia Europe

glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass
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#### Automotive

##### Acoustic

Saflex advanced acoustic interlayer can add to the performance of standard interlayer, increasing noise reduction levels by an additional 2dB.



##### Design

Saflex provides designers a broad color palette to enhance a vehicle's appearance.

##### Safety

Laminated glass made with Saflex interlayer provides occupant protection in case of an accident, as well as provides improved impact resistance.

##### Security

Laminated glass made with Saflex interlayer provides the security of enhanced penetration resistance compared to regular tempered glass.

##### UV Protection

All Saflex automotive interlayers, when combined with minimally performing automotive solar glass, block over 95% of the sun's harmful UV energy from entering the vehicle.

## STA Separatoren-Technik & Anlagenbau GmbH

Address	Obere Giesswiesen 32 78247 Hilzingen Germany
Phone	+49 7731 9243-0
Fax	+49 7731 9243-11
Internet address	www.sta-separator.de
E-Mail	info@sta-separator.de
Stand	Hall 15, C63 (Page 648)

### Company News

STA Separatoren-Technik & Anlagenbau GmbH

#### 08/09/2010 **New automatic centrifugal separator A-12 for the purification of grinding water**

STA's centrifugal separators are well known for effective space-saving water treatment without any need for filtering material or chemicals, capable of separating fine solids and generating dry sludge for cost-efficient disposal.



With the re-design of the A-12 model STA launches a new separator with automatic solid discharge. Together with a unique break system its single main drive accomplishes both functions separation and sludge removal. Due to this innovation it represents an affordable alternative compared with manual centrifuges. Its excellent separation performance of down to 1 to 2 microns sets the standards in this price segment.

### Product Overview

STA Separatoren-Technik & Anlagenbau GmbH

glasstec.02.03.07 Water treatment for grinding technology

glasstec.02.10.03 Waste water treatment equipment

glasstec.02.12.05 Waste water treatment

### Product Details

STA Separatoren-Technik & Anlagenbau GmbH

glasstec.02.10.03 Waste water treatment equipment

#### Central and group systems

For central and group systems, e.g. for cleaning and maintaining aqueous coolant lubricant or washing emulsions and machining oils, STA offers multistage complete solutions from a flexible modular system.



Here, receiving volume and supply volume flow can be individually adapted to the specific process requirements. Apart from the fluid cleaning unit itself, the scope of the project consists mostly of additional components, e.g.:

- Coarse separation devices (filters, magnetic drums etc.)
- Lifting stations
- Process supply via circular line
- Partial process pressure supply up to 100 bar
- Moderation of fluid by means of heating and cooling units
- Integration of dosing units and stirring devices
- Foreign oil separation
- Data exchange with customer production systems, BUS connection as desired



## Stewart Engineers



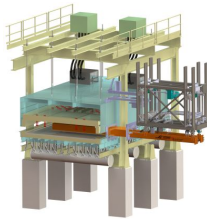
Address	11640 NorthPark Drive, Suite 100 27587 Wake Forest, NC USA
Phone	+1 919 435-9100
Fax	+1 919 435-9101
Internet address	www.stewartengineers.com
E-Mail	info@stewartengineers.com
Stand	Hall 13, C48-2 (Page 640)

### Company News

Stewart Engineers

#### 09/09/2010 AcuraCoat® Coating System Commissioning at Kibing

Stewart Engineers is pleased to announce the third successful installation of the AcuraCoat® on-line CVD system at Zhangzhou Kibing Class Company, Ltd. in the Fujian Province, Peoples Republic of China. Commissioning of the pyrolytic system will start early September.



### Product Overview

Stewart Engineers

glasstec.01.05.01	Float glass technique
glasstec.01.10.03	Inspection systems
glasstec.01.11.01	UV-Absorption-Coating (pyrolytic)
glasstec.01.11.02	IR-Reflective Coating (pyrolytic)
glasstec.02.06.06	UV-Absorption - Coating (pyrolytic)
glasstec.02.06.07	IR-Reflective Coating (pyrolytic)
glasstec.03.01.01	Float and mirror glass
glasstec.03.10.03.01.06.06	Coating of flat glass
glasstec.06	Contracting, consulting, engineering, services

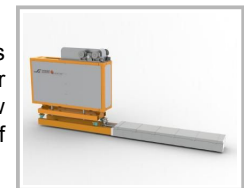
### Product Details

Stewart Engineers

glasstec.02.06.06	UV-Absorption - Coating (pyrolytic)
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#### AcuraCoat®

AcuraCoat® high performance pyrolytic on-line glass coating system consists of single flow, dual flow, and/or lehr gap coaters capable of producing Reflective, Low E, Solar Control, PV-TCO, Anti-Reflective, and Self Clean hard coatings.



glasstec.02.06.07

IR-Reflective Coating (pyrolytic)

**AcuraCoat®**

AcuraCoat® high performance pyrolytic on-line glass coating system consists of single flow, dual flow, and/orlehr gap coaters capable of producing Reflective, Low E, Solar Control, PV-TCO, Anti-Reflective, and Self Clean hard coatings.



**Stiefelmayer-Contento GmbH & Co KG**

Address	Hüttenweg 4 97877 Wertheim Germany
Phone	+49 9342 9615-0
Fax	+49 9342 9615-50
Internet address	www.contento.com
E-Mail	info@contento.com
Stand	Hall 14, E41 (Page 644)

**Product Overview**

Stiefelmayer-Contento GmbH & Co KG

glasstec.02.03.08.02 Digital printing technology

glasstec.02.05.02 Laser-marking technology

**Product Details**

Stiefelmayer-Contento GmbH & Co KG

glasstec.02.05.02

Laser-marking technology

**SLM II at a glance**

Windows® based convenient user

interface wide tolerance range of the environmental

temperature due to water-air-cooler is suitable for both, single-part production

of individual images and large scale

manufacturing. It is possible to place up

to 15 glass blocks with dimensions 80x50x50 mm, for instance both, the computer and the monitor are

integrated into the machine, i.e. no further

furniture are required for computer and

monitor equipped with modular construction

system equipped with two big sized windows



**SULAK Glass Working Machinery**



Address	Lidicka 112 563 01 Lanskroun Czech Republic
Phone	+420 465 322878
Fax	
Internet address	www.sulak.cz
E-Mail	info@sulak.cz
Stand	Hall 11, G26 (Page 632)

### Product Overview

SULAK Glass Working Machinery

glasstec.02.01.02	Glass saws
glasstec.02.02	Drilling technology
glasstec.02.03.01.01	Grinding techniques for straight edges
glasstec.02.03.01.03	Grinding techniques for formed glass

### Product Details

SULAK Glass Working Machinery

glasstec.02.02 Drilling technology

#### 2-Sided Glass Drilling Machine VTS 02

Vertical 2-Sided Glass Drilling Machine with Electronic Speed Control Compact design, affordable system, saves floor space All work processed vertically - normal transport and storage position for glass. Both drilling heads on a swinging structure opened on the top - no height limitation Controlled by one handle only Exact and easy control of coordinates = precise location of the hole center Drills are cooled and lubricated with a recirculating coolant system (tank and pump)

### Suministros Vitrosep, S.L.



Address	Garrigàs, 9-A 17600 Figueres Spain
Phone	+34 972 507743
Fax	+34 972 510316
Internet address	www.vitrosep.com
E-Mail	xllauro@vitrosep.com
Stand	Hall 13, E65 (Page 640)

### Product Overview

Suministros Vitrosep, S.L.

glasstec.02.12.05 Waste water treatment

### Product Details

Suministros Vitrosep, S.L.

glasstec.02.12.05 Waste water treatment

#### Equipments CC-21

GLASS PARTICLE SEPARATOR MODEL CC -21

#### TECHNICAL SPECIFICATIONS

The separator VITROSEP CC-21 has been specially designed for the removal of solid waste in suspension generated during the manipulation of glass, mineral or organic, contributing to respect the environment as it allows reuse of the treated water and it doesn't generate liquid effluents. Because of the capacity characteristics and operational simplicity of this machine it adapts perfectly to the requirements of any company.



The separator VITROSEP CC-21 works in by-pass, treating continuously and independently from the operation of the machines part of the refrigeration water flow. In this way the particles are eliminated, cleaning the circuit. In accordance with this operational concept the most important parameter for the design of an installation is the generation of wastes, the flow of coolant plays a minor role.

The VITROSEP CC-21 is an apparatus of reduced dimensions that can be used in many applications, for instance:

- Single machines (bevellers, edgers)
- Groups of machines sharing the same circuit (lens polishing)

Dimensions: 710 x 640 x 1060 mm

Separated solids: 4 to 9 kg/h of dry waste (\*)

Flow of water treated: 850 L/h

### Equipments CC-33

#### GLASS PARTICLE SEPARATOR MODEL CC -33

#### TECHNICAL SPECIFICATIONS

The separator VITROSEP CC-33 has been specially designed to eliminate large quantities of solid wastes, avoiding the sedimentation with mixers whose purpose is to obtain an homogeneous concentration in the dirty water and to facilitate the removal of the particles.

The compact size of the separator VITROSEP CC-33 facilitates its installation in companies with a great number of machines spread around the plant, installing the particle separators near the production machines, so that each one can serve a group of glass working machines.

The separator VITROSEP CC-33 works in by-pass, treating continuously and independently from the operation of the machines part of the refrigeration water flow. In this way the particles are eliminated, cleaning the circuit. In accordance with this operational concept the most important parameter for the design of an installation is the generation of wastes, the flow of coolant plays a minor role.

Dimensions: 885 x 830 x 1040 mm



Separated solids: 25 kg/h dry waste (\*)

Treated water flow: 3500 l/h

### Equipments CN-140

#### GLASS PARTICLE SEPARATOR MODEL CN -140

#### TECHNICAL SPECIFICATIONS

The experience gained by VITROSEP through its machines CC-21 and CC-33 and through their installation in medium and large industries that transform and manipulate glass, has allowed it to introduce into its production a new model of separator to respond to the needs of large industries - the CN-140.



Model adaptable by their design to all glass handling industries, thanks to both its capacity to supply clean water and its ability to eliminate glass particles.

The separator comes in several versions that are all based on the same basic model.

#### CN-140-G

The CN-140-G version has been conceived to supply clean water to the glass handling industry in general, and is suitable for treating water in companies that generate large quantities of glass particles, for example in processes of large scale edging and handling of large series.

#### CN-140-E

The CN-140-E version is suitable for industries specialising in complex tasks in general, where working with clean water is imperative for the final quality of the production, such as large production of bevelled glass, optical glass, organic optical glass, ophthalmic lenses, automotive glass, etc.

The VITROSEP separator CN-140-E has an automatic system to guarantee at all times the supply of high quality clean water, free from particles, using a set of detectors that continually check the quality of the water.

VITROSEP carries out, in each case, an installation adapted to the needs of the client which are established after an inspection visit to the company with the aim of facilitating the incorporation of our experience, which we have acquired after numerous assemblies, thus making the inclusion of a new concept for eliminating glass particles in production more agile and simpler.

Dimensions: 1.365 x 1.200 x 1.200 mm

Separated solids: 85 kg/h of dry waste (\*)

Flow of water treated: 13.000 L/

### SUN-TEC Swiss United Technologies GmbH

Address	Chamerstr. 12 6331 Huenenberg Switzerland
Phone	+41 41 7400173
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Internet address	www.sun-tec.ch
E-Mail	info@sun-tec.ch
Stand	Hall 11, C09 (Page 632)

### Company News

SUN-TEC Swiss United Technologies GmbH

#### 07/20/2010 3D Curved Automotive Polycarbonate LED Elements

Car manufacturer are using security glasses consisting of 3D curved Polycarbonates. SUN-TEC (www.sun-tec.ch) has succeeded to laminate transparent conductive Films into Polycarbonate. Its customer Cayetano in Spain has also been able to laminate SUN-TEC's transparent conductive LED Films into 3D curved Glasses for automotive purposes.



### Product Overview

SUN-TEC Swiss United Technologies GmbH

- glasstec.02.09.02.01 Laminated glass technology with foil for architectural glass
- .....
- glasstec.02.09.02.02 Laminated glass technology with foil for automotive glass
- .....
- glasstec.03.10.03.02.03 Decorative foils

### Suntech Machinery Co., Ltd.

Address	Lunjiao Industrial Zone 528308 Lunjiao Town, Shunde District, Foshan Ci China (Rep.)
Phone	+86 757 27755899
Fax	+86 757 27750899
Internet address	www.suntechcn.net
E-Mail	sales@suntechcn.net
Stand	Hall 10, A01-4 (Page 628)

### Product Overview

Suntech Machinery Co., Ltd.

glasstec.02.01.01.01 Cutting technology for float glass

glasstec.21.03 Special offers for architects

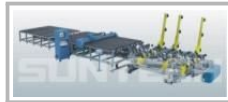
### Product Details

Suntech Machinery Co., Ltd.

glasstec.02.01.01.01 Cutting technology for float glass

#### Glass Cutting Machine SQG4025

Glass Automatic Cutting Machine units are the latest product developed by our company according to the market demands integrated domestic and foreign advanced technologies. The machine units compose of CNC Glass Cutting Machine, Glass Automatic Loading Table and Glass Break out table. It applies Japanese Yaskawa servo system and Italian controller and features convenient operation, wide application, high cutting speed, precise cutting size, fast, stable and accurate start and brake. It applies Philips computer and Italy popular glass layout software to insure best input mode and layout. The machine units have fully automatic operation for glass taking, sending, cutting and breaking with high production efficiency, low labor intensity which is particularly suitable for mass production.



## TECNOMATIC

Address Via dell'Arzilla 2/G - SP 144 - Villa  
61024 Monteciccardo / PU  
Italy

Phone +39 0721 471022

Fax +39 0721 470644

Internet address www.tecnomatic.org

E-Mail info@tecnomatic.org

Stand Hall 15, F53 (Page 648)

### Product Overview

TECNOMATIC

glasstec.02.03.07 Water treatment for grinding technology

glasstec.02.10.03 Waste water treatment equipment

glasstec.21.02 Special offers for glass trade / crafts

### Product Details

TECNOMATIC

glasstec.02.03.07 Water treatment for grinding technology

#### ECOMATIC 150

REAL TIME PURIFICATION The Ecomatic serie is a range of softeners that rapidly soften waste water from glass processing allowing in real time its complete re-use for machinery. Real time clarification of incoming waste with immediate output of clarified water for recycled use in the glass working industry.



**ECOMATIC 300**

REAL TIME PURIFICATION



**EKOMPACT 75**

A mini-purifier for single machine Glass particle separator.



**EKOMPACT 75 F 700**

Water for glass grinding and drilling technology. Water for CNC machine. 2 tipe of water production. Patented.



glasstec.02.10.03

Waste water treatment equipment

**Ecomatic 300 F 1000**

Glass particle separator for groups of machines and by filtration system production 2nd tipe of water available for CNC machines, Washing machines.



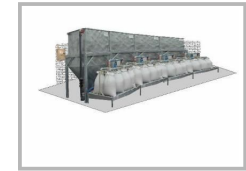
**ECOMATIC 400 F 1000**

Glass particle separator for groups of machines. By filtration system production 2nd tipe of water available for CNC machines, Washing machines.



**ECOMATIC 800**

REAL TIME PURIFICATION



**Tenax Grupa, Tenachem Ltd.**



Address	Spodribas str. 3 3701 Dobeles, Dobeles Nov. Latvia
Phone	+371 6 3722390
Fax	+371 6 3707050
Internet address	www.tenaglass.com
E-Mail	info@tenax.lv
Stand	Hall 17, C63 (Page 656)

**Product Overview**

Tenax Grupa, Tenachem Ltd.

glasstec.02.08.06	Sealing techniques
glasstec.02.11.04	Sealants
glasstec.21.03	Special offers for architects

**Product Details**

Tenax Grupa, Tenachem Ltd.

glasstec.02.08.06

Sealing techniques

**TENAGLASS-2**

Two component insulating glass sealant based on polysulfide Application: Use in the production of insulating glass units Properties: -Good adhesion to glass, aluminum surfaces; - Resistant against the surrounding environment and climate factor; - Has low gas and water vapour permeability. TENAX GRUPA and TENACHEM is certified ISO 9001 and ISO 14001 by BVQI TENAGLASS-2 is tested and certified at ift Rosenheim GmbH according to the standard EN 1279



**TENAGLASS-3**

Primary Sealant is compounded polyisobutylene hot melt sealant specifically formulated for use in the production of dual seal insulating glass units.

Application: Use in the production of insulating glass units. It should always be used in conjunction with a suitable secondary sealant, such as TENAGLASS-2 Polysulfide Sealant or TENAGLASS-PU Polyurethane Sealant.



Properties: - Excellent adhesion to glass, aluminum, galvanized steel and metal and plastic corner keys; - Very low gas permeability; - Very low moisture vapour transmission rate; - Easy application by standard dispensing equipment; - No cleaning or purging of dispensing equipment required; - Acts as a thermal break.

**Tenaglass-PU**

TENAGLASS-PU 12.09.2009

Two component insulating glass sealant based on polyurethane two types: paste and liquid

Application: Use in the production of insulating glass units Properties: -Good adhesion to glass, aluminum surfaces; - Resistant against the surrounding environment and climate factor; - Has low gas and water vapour permeability. TENAX GRUPA and TENACHEM is certified ISO 9001 and ISO 14001 by BVQI TENAGLASS-PU is tested and certified at TNO, Netherlands according to the standard EN 1279



**Tenon (Beijing) Equipment Co., Ltd**



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Stand	Hall 17, B63 (Page 656)

**Company News**

Tenon (Beijing) Equipment Co., Ltd

**07/02/2010 Tenon(Beijing)Equipment wait you in Germany Glass Tec.**

There is a large exhibition here in Germany from 28th Sep to 1st of Oct. We have about 88square meters there, and will show most of our machine there. Hope you come to visit us. The booth number is 17B63.

**Product Overview**

Tenon (Beijing) Equipment Co., Ltd

glasstec.02.04	Forming and bending technology
glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.08.02	Production equipment for spacers
glasstec.02.08.03	Production equipment for insulating glass frames



**Product Details**

Tenon (Beijing) Equipment Co., Ltd

glasstec.02.08.01 Complete plant for insulating glass production

**automatic horizontal seaming machine**



automatic precise grinding 4 sides and corners cut with excellent working speed in place of traditional double edging machine

precise grinding with servo motor and controlled by touch screen

automatic adjust for different glass size and glass thickness

can be connected with horizontal washing machine and tempering furnace

glass transport system by vacuum conveyor belts avoid scratching ,can be used for low-e glass

**TERRUZZI FERCALX SPA**



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Stand	Hall 15, A31 (Page 648)

**Product Overview**

TERRUZZI FERCALX SPA

glasstec.02.09.04 Autoclaves

**Product Details**

TERRUZZI FERCALX SPA

glasstec.02.09.04 Autoclaves

**FERCALX**



FERCALX realize also plants in the environmental field, and precisely:

**DRYING PLANTS**

-for sludge(biological and industrial)

-for clay,sand,etc.

-for ore swarfs

The drying is made with a rotary drum.

Being a thermal drying process,the capability of dewatering is very high,in comparison with mechanical systems.

## TESOMA GmbH



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Internet address	www.tesoma.de
E-Mail	info@tesoma.de
Stand	Hall 12, B41 (Page 636)

### Product Overview

TESOMA GmbH

glasstec.02.06.05 Dryers and decorating technology

### Product Details

TESOMA GmbH

glasstec.02.06.05 Dryers and decorating technology

### Glass dryer - EVENT

Electrically heated flow dryer for flat glass up to a pane thickness of 19 mm to dry: - ceramic colours, which are burned-in after the drying, 2-component colours and further colour systems, which are applied on flat glass via - screen-printing, - roll coating, - spraying and casting. Designed for highest drying demands with: - hot air/infrared combination - cooling - continuously variable conveying system - clearance height: max. 30 mm - clearance width: from 900 up to 2600 mm - SPS-convenience control and control interfaces - systems for in- and outgoing air



### Glass dryer - GIANT

Electrically heated continuous dryer for flat glass up to a pane thickness of 25 mm to dry: - ceramic colours, which are burned-in after the drying, 2-component colours and further colour systems, which are applied on flat glass via - screen-printing, - roll coating, - spraying and casting. Designed for highest drying demands with: - hot air/infrared combination - cooling - continuously variable conveying system - clearance height: max. 30 mm - clearance width: 2.500, 3.000 and 3.500 mm - SPS-convenience control and control interfaces - systems for in- and outgoing air



### Modular Drying Equipment

Tesoma GmbH is a leading international specialist manufacturer of modular drying equipment for flat glass.



The tough demands of consistently developing and manufacturing the best possible machines for customers are firmly rooted in TESOMA's own business philosophy. Pioneering, quality machines take shape in the development laboratories and factory floors of this Chemnitz-based company – machines that set crucial market benchmarks for performance, reliability and innovation. TESOMA has risen to become a leading manufacturer of drying systems and is expanding worldwide.

The company's specialised custom equipment is deployed in all kinds of industrial drying and is a permanent feature of complete production lines, particularly for flat glass printing and coating. Renowned companies the world over trust TESOMA drying systems for use in their high-end machinery. TESOMA products and services thus currently enjoy national and international recognition.

With modern production, development and office facilities newly opened in Lichtenau near Chemnitz, TESOMA is on course for a promising and successful future. Increased capacity allows TESOMA to meet the future demands of industrial world markets better than ever.

## Thermtech GmbH

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Stand	Hall 11, E21 (Page 632)

### Product Overview

Thermtech GmbH

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

### Product Details

Thermtech GmbH

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

#### Heat-Soak-Furnace



#### Heat-Soak-Furnace



## Thieme GmbH & Co. KG

**THIEME**

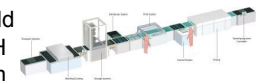
Address	Robert-Bosch-Str. 1 79331 Teningen Germany
Phone	+49 7641 583-0
Fax	+49 7641 583-550
Internet address	www.thieme.eu
E-Mail	info@thieme.eu
Stand	Hall 12, C57 (Page 636)

### Company News

Thieme GmbH & Co. KG

#### 08/12/2010 First Address For Glass Screen Printing

Anyone who is interested in glass screen printing should definitely plan a visit to the fair booth of THIEME GmbH & Co. KG: At Glasstec 2010, which will be held from September 28 to October 1, 2010 in Düsseldorf, the screen printing specialist will provide in depth information about the current opportunities in glass screen printing. Moreover, Thieme will present solutions for the coating of thin-film solar cells.



Glass screen printing offers a very wide range of both aesthetic and functional applications – from large-format facade glass in architecture to automobile form glass and windshields and front panes for household appliances through to technical glass panels. With its modular system concepts Thieme, the market and technology leader in the sector of flatbed screen printing machines, covers nearly all areas of application. Technical applications such as sensor glass and thin-film solar cells belong to the scope of service of the Thieme Machines. By means of precisely adapted system concepts Thieme accommodates the in part very differing requirements in the various sectors. From the single machine to the fully automatic inline printing line, which is put together according to customer specifications, every system configuration is possible.

In order to optimally design the respective printing process, Thieme offers the addition of a large selection of auxiliary components such as automatic screen-wetting, a "Wandres" cleaning unit, "ScreenClean" intermediate paper cleaning, anti-drip system, laser positioning system, storage systems, and much more. The stored program controller, available for all Thieme installations, in which all of the order-related parameters can be recorded, shortens the set-up time considerably and increases the quality and reproducibility.

Exciting technical discussions in the lounge This year Thieme will again be sharing the 120-square meter fair booth with its Partners Remco Chemie GmbH, Heidelberg, and Fotec AG, Kuesnacht (Switzerland). Remco is one of the leading manufacturers of system chemicals for screen printing, such as products for the screen preparation and cleaning; Fotec is a manufacturer and supplier of screen printing frames and stencils, paints, webbing and additional accessories. Visitor to the fair can thus receive in depth consultation about the current opportunities of glass printing. The comfortable lounge at the Thieme booth (No. C57, Hall 12) offers a pleasant setting for exciting technical discussions.

#### Product Overview

Thieme GmbH & Co. KG

glasstec.02.03.08.01.01 Screen printing techniques

glasstec.02.03.08.01.04 Other screen printing machines

glasstec.02.06.02 Enamel glass machines, screen printers, thermal pressure equipment

glasstec.02.06.05 Dryers and decorating technology

#### Product Details

Thieme GmbH & Co. KG

glasstec.02.03.08.01.01 Screen printing techniques

#### Screen printing: Industrial - glass

Screen printing can be found on architectural glass designs for large façade windows, glass furniture, separation walls, shower enclosures and mirror tiles.



Highly recognized applications for glass are found in the automotive field. Front and rear windows, interior and exterior mirrors as well as

rear window defrost grids are commonly screen printed.

Household appliance components such as: refrigerator, kitchen stoves, microwave oven fronts, Ceran® cook tops, touch screen and television panels etc. are not complete without screen printing.

glasstec.02.03.08.01.04 Other screen printing machines

#### Screen printing: Industrial - Solar

For the solar industry, THIEME is producing an industry standard-setting system concept for the coating of silicon wafers by screen-printing ensuring a high quality print, minimum breakages, low machine set-up times, and lowered maintenance requirements.

The fully automatic THIEME screen-printing system for the precision printing of silicon wafers is conceived as a rotary cycle system with specially developed printing nests. Equipped with integrated material transport systems, inline quality control systems and effective paste curing, THIEME ensures a cost-efficient process.

glasstec.02.06.02

Enamel glass machines, screen printers, thermal pressure equipment

#### Glass printing with the 3000GS fully automatic printing syst



The fully-automatic printing line pictured above was specially designed to accommodate 6 mm (1/4") glass panels. Rigid material of any kind can be processed with this special machine. Thanks to the modular design concept, the 3000GS can be easily linked together where through-put is therefore exponential. This machine can handle rigid panels from 300 x 150 mm to 650 x 650 mm.

glasstec.02.06.05

Dryers and decorating technology

#### Circulating-air Dryers



The circulating-air dryers are available in eight different standard belt widths that range from 70 to 215 cm (27 to 85 inches). They are built in modular construction to achieve many dryer combinations.

The main feature of the continuous-flow dryer is the air, not the heat. Therefore the dryers are featured with high circulating air volumes. In spite this fact, sheet stability remains in tact due to proper vacuum holding means during drying.

The substrate can be dried under low temperatures therefore gaining economies in energy costs.

## TIBTECH innovations

Address	196 rue du Pont Rompu 59200 Tourcoing France
Phone	+33 320851073
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Internet address	www.tibtech.com
E-Mail	contact@tibtech.com
Stand	Hall 13, E61 (Page 640)

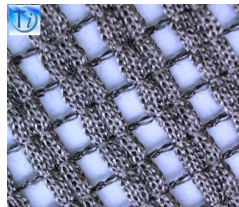
### Company News

TIBTECH innovations

#### 07/17/2010 TIBTREM: New Patented QUENCH Tape

TIBTECH has developed the "TIBTREM" Family, a new concept of patented stainless steel tapes for automotive glass quenching process .

It is well known that, during the forming process of multilayers glass, a cold air quenching process is used to optimize the mechanical properties of the automotive glass. A first important issue is to have a contact material that supports the high pressure forming process as well as the weight of the glass itself without marking the still soft hot glass during the bending process. The second and most important issue is to allow an even quenching process, even on the side of the glass that are supported by the frame. The TIBTREM family use a new concept of soft but resilient stainless steel braids of different thickness that are kept in position by a hybrid technology between woven and knitted process. These TIBTREM quench tapes are



stretchable and can be adapted to several types of specific tooling.

TIBTECH is a relatively new start up specialized in engineering and supply of technical contact materials or gripping devices to the glass industry. We remain at the service of your research or tooling centers or of your line process managers to study the best ways to optimize your process capability at the most competitive global unit price.

### Product Overview

TIBTECH innovations

glasstec.01.06.17	Aids for the forming of hollow glass
glasstec.02.04	Forming and bending technology
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
glasstec.03.03	Automotive glass

## TMT Technology Manufacturing and Trading

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E-Mail	info@tmtglass.com
Stand	Hall 12, A67 (Page 636)

**Product Overview**

TMT Technology Manufacturing and Trading

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

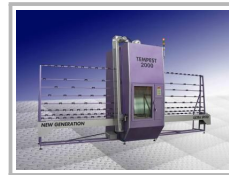
**Product Details**

TMT Technology Manufacturing and Trading

glasstec.02.03.03 Matting/Supercalendering/etching/sand blasting technologies

**TEMPEST 2000**

FASTEST SANDBLASTING MACHINE...



High Performance Automatic Width Detection Triple Gun System No Leakage Touch Screen Control Panel Automatic Filter Cleaning System Long Life Nozzle Trouble Free Robust Mechanism Easy Operation Best Quality Product

**TEMPEST2000**

Capacity 35 m2/h  
Max. Working Dimension 2000x 6000 mm  
Min. Working Dimension 250 x 100 mm  
Supply Voltage 3 x 380 V  
Total Gun 3  
Air Consumption 3200 lt / dk 6Bar  
Total weight 600 kg  
Max. Material Thickness 25mm

**Tokai Carbon Italia S.r.l.**

Address	Via Cagliari, 40 20060 Trezzano Rosa (Mi) Italy
Phone	+39 02 90969190
Fax	+39 02 90968851
Internet address	www.tokaicarbon.co.jp
E-Mail	info@tokaicarbonitalia.it
Stand	Hall 11, D04 (Page 632)

**Product Overview**

Tokai Carbon Italia S.r.l.

glasstec.01.04.08	Electrically heated systems
glasstec.01.02.01	Refractory materials
glasstec.02.11.02	Replacement and spare parts
glasstec.01.06.13	Moulds for glass production
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
glasstec.01.06.17	Aids for the forming of hollow glass

**Product Details**

Tokai Carbon Italia S.r.l.

glasstec.02.11.02	Replacement and spare parts
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**SiC and Graphite**

SiC EREMA Heating Elements for high temperature application

Isotropic & Extruded Graphite for industrial application

glasstec.02.13.01 Components and accessories (suppliers to the glass machinery industry)

**TKK and Winner**

SiC EREMA Heating Elements for high temperature application  
 Winner MoSi2 heating elements with a wide range of applications

**Torlin Chemicals (Shanghai) Co., Ltd.**

Address	A-6, Songjiao Road 201203 Shanghai China (Rep.)
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Fax	+86 21 50800342
Internet address	www.torlincn.com
E-Mail	export@torlincn.com
Stand	Hall 10, B04-3 (Page 628)

**Product Overview**

Torlin Chemicals (Shanghai) Co., Ltd.

glasstec.02.03.04 Glassfrosting

**Product Details**

Torlin Chemicals (Shanghai) Co., Ltd.

glasstec.02.03.04 Glassfrosting

**Automatic Cosmetic Bottle Frosting Machine**



The automatic cosmetic bottle frosting machine perfectly combines chemical frosting and mechanical automation in one system, which can be used to produce large quantities of frosted glass bottles such as cosmetic containers, perfume bottles, and wine bottles. This machine has been sold and used widely in China as well as the Far East and Russia. Using this machine can reduce labor cost and also improve frosting products' quality and consistency.

**Quartz Glass Frosting Powder**



Quartz Glass Frosting Powder ST-102 is specially made for highly-pure silicon-dioxide-quartz glass, such as: Quartz Halogen, tungsten lamps etc. ST-102 Quartz Glass Etching Powder, based on industrial grade Hydrochloric Acid, can be used at indoor temperature. The Quartz Halogen lamps frosted by ST-102 are white and soft.

## TUROMAS-TECNOCAT



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Fax	+34 978 804380
Internet address	www.tuomas.com
E-Mail	export@tuomas.com
Stand	Hall 11, G21 (Page 632)

### Product Overview

TUROMAS-TECNOCAT

glasstec.02.01.01.01	Cutting technology for float glass
glasstec.02.01.01.02	Cutting technology for laminated safety glass
glasstec.02.01.01.03	Cutting technology for technical glass
glasstec.02.01.03	Devices for coating removal
glasstec.04.03	Handling tools, hand-guided
glasstec.04.08	Lifting and working platforms

### Product Details

TUROMAS-TECNOCAT

glasstec.02.01.01.02	Cutting technology for laminated safety glass
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### LAM 210

LAM-210 is a cutting table for laminated glasses. This cutting table is notable for its easy handling and great quality of cut. This table incorporates an automatic measurement carriage, a quartz lamp and touch screen to where can be selecting materials and functions. This table is available of hydraulic arms (optional) to remove the cut pieces of big size. TUROMAS has incorporated the most up-to-date technologies and effective electro-mechanical and pneumatic techniques, permitting a considerable improvement in speed, quality and precision of the cut in laminated glass or up to 10+10.



## Umicore Thin Film Products AG



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E-Mail	sales.materials@umicore.com
Stand	Hall 11, E32 (Page 632)



**Product Overview**

Umicore Thin Film Products AG

glasstec.02.06.06	UV-Absorption - Coating (pyrolytic)
glasstec.02.06.07	IR-Reflective Coating (pyrolytic)
glasstec.02.06.08	Sputtering targets for glass coatings
glasstec.02.06.09	Mirror coating products
glasstec.02.07.02	Components and accessories for display glass technology
glasstec.03.10.03.01.06.06	Coating of flat glass

**Product Details**

Umicore Thin Film Products AG

glasstec.02.06.06	UV-Absorption - Coating (pyrolytic)
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**Displays**

A picture is worth a thousand words. For that reason we increasingly integrate displays in every day life: from mobile phones to computers to television sets.



The integration of electronics and optics finds its use in an increasing number of devices. A wealth of information, available in an electronic form, is made visible on a variety of displays. On the other hand, solar cells convert light to useful electricity. Displays and solar cells are typical examples of layered structures of various electro-optically functional coatings on glass or plastic substrates.

ITO (Indium tin oxide), for example, is used as a transparent conductive oxide. Umicore Thin Film Products provides a diverse portfolio of both sputtering targets and evaporation materials. Even for the most complex applications, such as thin film solar cells, Umicore Thin Film Products can produce the materials for every single layer present.

By involving both, universities and industrial partners, Umicore is at the forefront of technological evolution. This opens the opportunity to design materials fully accomplishing today's and tomorrow's industry requirements. A highly trained

technical sales force worldwide ensures an easy access to the efficient solutions developed by our engineers and R&D centers.

**Titanium oxides**

- › Highest refractive index in visible range
- › High UV-blockage
- › Good environmental resistance
- › Best reproducibility and lowest thermal stress for coatings on plastics using Ti3O5
- › Stable evaporation behaviour without spitting or outgassing
- › Widely tunable refractive index
- › Very good environmental durability
- › Well-suited for BBAR coatings on plastics

glasstec.02.06.08	Sputtering targets for glass coatings
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**Sputtering Target**

Indium Tin Oxide (ITO) High Density

Sputtering Target

Application Fields

ITO planar sputtering targets provide deposition of high quality transparent conductive films and can be employed in a variety of applications including Touch Panels and different types of Displays such as TFT-LCDs, OLEDs and PDPs.

## Unterreiner Maschinenbau GmbH



Address	Hochkreuzstr. 23 83454 Anger Germany
Phone	+49-8656-370
Fax	+49-8656-349
Internet address	www.unterreiner-maschinenbau.de
E-Mail	info@unterreiner-maschinenbau.de
Stand	Hall 12, A60 (Page 636)

### Product Overview

Unterreiner Maschinenbau GmbH

glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies
glasstec.02.03.05	Polishing technology
glasstec.02.03.07	Water treatment for grinding technology
glasstec.02.12.03	Collecting containers
glasstec.02.12.04	Purification of exhaust gases
glasstec.02.12.05	Waste water treatment
glasstec.02.12.06	Treatment of wheel and polishing wharf

### Product Details

Unterreiner Maschinenbau GmbH

glasstec.02.03.03	Matting/Supercalendering/etching/sand blasting technologies
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#### AUTOMATIC LINEAR ETCHING MACHINE

Unterreiner Maschinenbau GmbH will inform the expert visitors about the new linear etching machine (satin-etching, acid-etching, frosting) with automatic horizontal product conveyance for the wet-chemical cleaning and etching of different glass articles such as bottles, drinking glasses, lighting glass, fancy goods, etc. at our booth in hall 12 (booth A 60) at the trade fair glasstec 2010 in Düsseldorf from September 28 - October 01, 2010. The machine has a modular structure and an easy-to-service design. Thus it is possible to adapt the machine to the individual customer demands and a variable use is provided. The automatic linear etching machine offers the customer a safe and reliable productive capacity of up to 4000 bottles per hour and the following features:

- > High throughput
- > High plant availability
- > Maximum reduction of the chemical consumption
- > Modular system (simple expandability for a higher throughput)
- > Repeatable process results

We would be very pleased to welcome you at our booth

glasstec.02.03.05	Polishing technology
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#### Acid Polishing Unit



glasstec.02.03.07	Water treatment for grinding technology
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#### Sedimentation Tanks



glasstec.02.12.04

Purification of exhaust gases

**Waste Air Neutralization**



glasstec.02.12.05

Waste water treatment

**Waste Water Neutralization**



glasstec.02.12.06

Treatment of wheel and polishing wharf

**Sedimentation Tanks**



**Vesuvius France SA**

Address	68 Rue Paul Deudon 59750 Feignies France
Phone	+33-327-6910-10
Fax	+33-327-6914-11
Internet address	www.vesuvius.com
E-Mail	info@vesuvius.com
Stand	Hall 13, C81 (Page 640)

**Company News**

Vesuvius France SA

**06/10/2010 VESUVIUS SMARTLY DRIVEN® Tempering Rollers**

Vesuvius reinforced its position as the world's leading innovative supplier of Fused Silica Glass Tempering Rolls with the launch of the patented SMARTLY DRIVEN® all mechanical end cap attachment system.



This unique end cap attachment development uniquely applies an environmentally and ergonomically friendly end cap system eliminating the need for a resin bond requiring chemicals such as formaldehyde.

The SMARTLY DRIVEN® End Cap is a superior product capable of withstanding arduous temperatures and torque operating condition. The maximum operating temperature has increased to 350° C compared to 150° C with the resin bonded design.

Vesuvius manufacturers and designs advanced Fused Silica products for the Solar, Glass Fabricating, Glass Forming and Foundry Industries

For more information about Vesuvius go to [www.vesuvius.com](http://www.vesuvius.com)

**Product Overview**

Vesuvius France SA

glasstec.01.02.01	Refractory materials
glasstec.01.04.02	Forehearth technology
glasstec.01.05.01	Float glass technique
glasstec.01.05.03	Casting and rolling technology
glasstec.01.06.01	Gob feeder
glasstec.01.09.03	Annealing lehrs, continuous/intermittent operation
glasstec.02.04	Forming and bending technology
glasstec.02.07.02	Components and accessories for display glass technology
glasstec.02.11.02	Replacement and spare parts
glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
glasstec.03.01.01	Float and mirror glass
glasstec.03.02.01	Tempered glass
glasstec.03.02.13	solar glass
glasstec.03.04.01.01.02	Thin film PV panels
glasstec.03.04.02.02	Solar mirrors

**Product Details**

Vesuvius France SA

glasstec.02.04 Forming and bending technology

**Zyarock® Forming Plates**



**VETRO TOOL S.A.**



Address	Pol. Ind. Caborana 33684 Aller Spain
Phone	+34 985 481566
Fax	+34 985 481573
Internet address	www.vetrotool.com
E-Mail	vetrotool@vetrotool.com
Stand	Hall 13, E69 (Page 640)

**Product Overview**

VETRO TOOL S.A.

glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.02.09.02.02	Laminated glass technology with foil for automotive glass

## Product Details

VETRO TOOL S.A.

glasstec.02.09.01.01 Furnaces for thermal pre-tempering of glass

### HEPHAESTUS

Back lights furnace for curved and tempered automotive glass.

Great Performance:

Astonishing optics. Low cost tooling. Molds are less than 1 tenth our competitors price. More than 80% of the market existing back lites can be achieved with its universal quench boxes.

Changing between different models takes less than 5 minutes.

Great Capacity: 6-10 seconds/piece on bending and tempering without press. 15 seconds/piece on back lites press bending and tempering. Very accurate and repetitive, obtaining an optimal tempering.

Specifications:

Max. dimensions: 1600\*900 mm.

Min. thickness: 2.85 mm.

### HERAKLES

Mixed furnace for curved and tempered automotive glass

It combines the Hermes flexibility with the Hephaestus power. 5 different types of process:

Continuous flat glass tempering. Continuous cylindrical glasses bending and tempering. Continuous double curvature spherical glasses bending and tempering. Press bending and tempering of small curvature complex shape glasses. Press bending and tempering of large curvature complex shape glasses (back lights).

Changing between each kind of process and/or different models takes less than 5 minutes.

Great capacity: 2-5 seconds/piece on sidelites bending and tempering. 15 seconds/piece on press bending and tempering back lights. Very accurate and repetitive, obtaining an optimal tempering.

Specifications:

Max. dimensions: 1250\*850 mm for sidelites and 1600\*900 mm for back lights.

Min. thickness: 2.85 mm.

### HERMES

Sidelites furnace for curved and tempered automotive glass. 5 different types of

process: Continuous flat glass tempering. Continuous cylindrical glasses bending and tempering. Continuous double curvature spherical glasses bending and tempering. Press bending and tempering of small curvature complex shape glasses. Press bending and tempering of medium curvature complex shape glasses.

Changing between each kind of process and/or different models takes less than 5 minutes.

Great capacity: 2-5 seconds/piece on continuous bending and tempering. 4-10 seconds/piece on press bending and tempering. Very accurate and repetitive, obtaining an optimal tempering.

Specifications:

Max. dimensions: 1250\*850 mm.

Min. thickness: 2.85 mm.

glasstec.02.09.02.02 Laminated glass technology with foil for automotive glass

### PROMETHEUS

Windshields furnace for laminated automotive glass

Designed to produce on-line. Equipped with PRESS BENDING for the highest quality. Automatic loading and unloading. Multi-model.

Great Capacity: 40 seconds/windshield in multi-model.

Specifications:

Glass max. dimensions: 2000\*1250 mm.

### VACUUM BAGS CONVEYOR

For the automotive windshields de-airing

Designed to produce on-line.

Automatic loading and unloading.

Multi-model.

Great Capacity: 15 seconds/windshield.

Specifications:

Glass max. dimensions: 2000\*1250 mm.

## Viprotron GmbH



Address	Lise-Meitner-Str. 10 64293 Darmstadt Germany
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E-Mail	info@viprotron.de
Stand	Hall 14, C40 (Page 644)

### Company News

Viprotron GmbH

#### 09/07/2010 New Products during the Glasstec

Quality Checker IGU

Reliable Quality Control on assembled IG Units

### Product Overview

Viprotron GmbH

glasstec.01.10.03	Inspection systems
glasstec.02.08.01	Complete plant for insulating glass production
glasstec.02.09.01.01	Furnaces for thermal pre-tempering of glass
glasstec.02.09.02.01	Laminated glass technology with foil for architectural glass

glasstec.02.13.01	Components and accessories (suppliers to the glass machinery industry)
glasstec.05.01.02.01	Surface, contour and imperfection measurement and control
glasstec.05.01.04	Detectors for laminated glass
glasstec.05.03.02	Inspection, protocolling and diagnostic systems

### Product Details

Viprotron GmbH

glasstec.02.08.01	Complete plant for insulating glass production
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#### Quality - Scanner - IG for optical quality control of insula

In modern production process of insulated glass a reliable visual inspection is indispensable to avoid cost intensive customer complaints. Present-day it is standard to trust nearly exclusive in manual inspection. But such human controls are not only extremely expensive, but also only restrictively consistent. At the same time the expectations increases to rely 100% on the quality. State of the art vision systems are today able to automate such tasks with convincing results and also displace human inspectors for other assignments.

Quality-Scanner-IG With the Quality-Scanner-IG is now a low cost quality control system available equipped with this innovative technology. Together with the newest generation of intelligent CCD-cameras and an intuitive Windows based user interface, the Quality-Scanner-IG takes charge of a reliable In-Line quality control. Directly integrated into the production process of insulated glass, this high performance system allows to guarantee your customer a consistent and reproducible quality of the glass independent of human motivation and abilities. Simultaneously a detailed documentation and archiving of the quality is achieved which allows you to prove the exact inspection details of a specific glass unit after even several months. Furthermore the Quality-Scanner-IG offers enough potential to optimise your productivity which automatically conducts to a preventive avoidance of glass defects.

Quality-Scanner-IG All visual defects like e.g. bubbles, scratches, stones, coating defects, tin, dirt, finger prints, foil defects, etc. larger than 0,5 mm<sup>2</sup> will be easily detected by the Quality-Scanner-IG. The user friendly Windows interface allows you to define and illustrate the exact quality settings according to the specific requirements of your customer.

The Quality-Scanner-IG which is completely integrated in the production line af-

ter the washing machine, stops rejectable glass or gives a warning signal before the glass will be further assembled. On the screen the rejected glass will be visualized in details by displaying the precise calculated defect positions within the defined quality zones. With such a detailed visualisation your employee will easily be able to immediately locate the defects on the glass. By integrating the Quality-Scanner-IG in your production line you not only gain a high performance tool for improved quality and productivity but also customer satisfaction and confidence.

## Wieland Edelmetalle + Technologie GmbH

**WIELAND**

Address	Schwenninger Str. 13 75179 Pforzheim Germany
Phone	+49 7231 3705-0
Fax	+49 7231 3705-288
Internet address	www.wieland-industrie.de
E-Mail	info@wieland-industrie.de
Stand	Hall 12, C26 (Page 636)

### Product Overview

Wieland Edelmetalle + Technologie GmbH

glasstec.02.06.08 Sputtering targets for glass coatings

### Product Details

Wieland Edelmetalle + Technologie GmbH

glasstec.02.06.08

Sputtering targets for glass coatings

#### Sputter

Pure metals for sputtering and vacuum deposition

We supply materials for the physical vapor deposition as pure elements or alloys upon customer request.

Product survey for sputter and vacuum deposition materials

Ref. No.

Material

Purities

Density g/cm<sup>3</sup>

Melting point °C 29901002

Au 4N 19,30 1063 29901001

Au 5N 19,30 1063 29901013

Ag 3N7 10,50 961 29901012

Ag 4N 10,50 961 29901011

Ag 5N 10,50 961 29901022

Pt 3N5 21,50 1769 29901021

Pt 4N 21,50 1769 29901031

Pd 3N5 12,00 1555 29901041

Rh 3N 12,40 1966 29901061

Ru 3N 12,20 2310 29801001

Cu 4N 9,00 1083 29801005

Ga 4N 5,90 30 29801013



Ge 4N 5,30 937 29801012

In 4N 7,30 156 29801026

Ni 3N5 8,90 1453 29801025

Sn 4N 7,30 231 29801016

Ti 3N 4,50 1668

### Wuhan Ritop Machine Co., Ltd.

Address	28th Floor, Sunshine Xintiandi 430022 Wuhan Hubei Province China (Rep.)
Phone	+86 27 59525511
Fax	+86 27 59526577
Internet address	www.ritop.net
E-Mail	sales@ritop.net
Stand	Hall 10, B04-5 (Page 628)

#### Product Overview

Wuhan Ritop Machine Co., Ltd.

glasstec.02.02 Drilling technology

glasstec.02.03.01.03 Grinding techniques for formed glass

#### Product Details

Wuhan Ritop Machine Co., Ltd.

glasstec.02.02

Drilling technology

#### Drilling Machine

Product Information :

Type

Technical Data

Application

Feature

Max. Glass Size

(mm)

Glass Thickness

(mm)

RSZ21A 2,100×1,100 2.0~6.0

For drilling of automotive glass, household appliance and furniture glass. 1. Automatically glass positioning, hole positioning and drilling. 2. One or multiple holes can be drilled, two holes of different diameters can be drilled simultaneously.



glasstec.02.03.01.03

Grinding techniques for formed glass

#### Grinding Machine

Product Information :

Type

Technical Data

Application

Feature

Glass Size

(mm)

Glass Thickness





(mm)

RSM21A

φ2,100 2.0~6.0

For edge grinding of automotive glass, household appliance and furniture glass.

1. Automatic glass positioning and grinding. 2. Fast model change-over and high productivity.

### Xavannah dataprocessed engineering, Henner Hucker & Denis Schmischke GbR

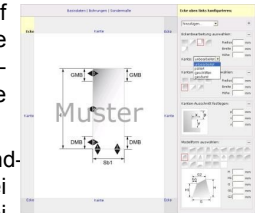
Address	Karl-Oldewurtel-Str. 40 33659 Bielefeld Germany
Phone	+49 521 987 585 -10
Fax	+49 521 2525-594
Internet address	www.xavannah.de
E-Mail	vertrieb@xavannah.de
Stand	Hall 14, A22 (Page 644)

### Company News

Xavannah dataprocessed engineering, Henner Hucker...

#### 15.08.2010 **Neu im Glashandwerk: Elektronische Produktkonfiguratoren optimieren die Auftragsbearbeitung**

Das eBusiness-Systemhaus Xavannah präsentiert auf der glasstec 2010 in Halle 14, Stand A22 seine neueste und funktionell erweiterte Generation an Produktkonfiguratoren, die unter anderem in der Glasbranche Einzug halten.



Internetbasierte Produktkonfiguratoren werden von Endkunden schon lange eifrig genutzt, ob es sich dabei nun um Pkws oder um Einbauküchen handelt. Dabei kann der Verbraucher den Preis seiner Wunschzusammenstellung erfahren oder sich generell über mögliche Lösungen oder Produktkombinationen informieren. In manchen Fällen ist der Konfigurator sogar direkt mit der Kaufmöglichkeit bzw. einem Shop verknüpft.

In der Glasbranche allerdings ist die von Xavannah vorgestellte Lösung bisher einzigartig. Im Gegensatz zu bisherigen Systemen ist mit der Xavannah-Software auch die Auswahl von Sonderwünschen wie Eck- und Randausschnitten oder Bohrungen möglich. Das System erlaubt die Konfiguration von Spiegeln, Schiebetüren, Fliesenspiegeln aus Glas und sogar von Duschtrennungen.

Endkunden können so ihre individuelle Lösung einfach und schnell online erstellen und prüfen, ob die Wunschlösung technisch überhaupt machbar ist und erhalten eine unverbindliche Preisinformation. Je nach Bedarf kann das Xavannah-System auch maßstabsgerechte CAD-Zeichnungen und Stücklisten des gewünschten Produktes erstellen und dient so als Schnittstelle zwischen Endkunde und Glaserei-Fachbetrieb, der die gewünschte Lösung fachgerecht einbaut.

Der Glasereibetrieb kann diesen Konfigurator ferner als erweiterte „Profiversion“ intern nutzen. Sonderbearbeitungen, Änderungen von Dichtungsprofilen, Wanneneinrückmaße, Höhenabweichungen und vieles anderes mehr können zur individuellen Erstellung einer Lösung eingegeben werden. Das Ergebnis ist in diesem Fall eine komplette Stückliste, einschließlich CAD-Zeichnungen aller Gläser mit der notwendigen Glasbearbeitung. Die Daten einiger bekannter Glasbeschlagshersteller sind von Xavannah bereits im System eingepflegt und können „out of the box“ verwendet werden. Erweiterungen sind stets möglich.

Das System läuft vorzugsweise im Internet oder Intranet, kann zukünftig aber

auch als Offline-Version, zum Beispiel auf einem USB-Stick, verwendet werden.

Xavannah dataprocessed engineering wurde 2008 gegründet. Ein gut ausgebildetes und motiviertes Team, bietet ganzheitliche Lösungen im Bereich eBusiness an. Es hilft bei der Optimierung der Geschäftsprozesse, stellt die hierfür benötigten Hilfsmitteln bereit und unterstützt den späteren Betrieb der IT-Systeme. Schwerpunkte der Tätigkeit sind die eigene Softwareentwicklung und deren Integration im Handwerksbetrieb.

Weitere Informationen: Xavannah dataprocessed engineering Henner Hucker & Denis Schmischke GbR Herr Denis Schmischke Karl-Oldewurtel-Str. 40 D-33659 Bielefeld T: +49 521 987 099 8 www.xavannah.de. GLASSTEC Halle 14, Stand A22

**Product Overview** Xavannah dataprocessed engineering, Henner Hucker...

glasstec.02.13.02	Software
glasstec.05.03.03	Optimization systems for cutting and yield
glasstec.05.04	Software and applications for architects and planners
glasstec.06	Contracting, consulting, engineering, services
glasstec.21.02	Special offers for glass trade / crafts
glasstec.21.03	Special offers for architects

**Product Details** Xavannah dataprocessed engineering, Henner Hucker...

glasstec.02.13.02	Software
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**xdeCommerce**

Short product descriptions:

eShop



- Run entirely (server, software, updates, ...) by Xavan-

nah

- Color can be chosen to match corporate colors/identity
- Logo and Flash animation can be individually customised
- Optional configurator module for a wide variety of business areas (Variant configurators)
- General master data settings
- Price maintenance (RRP and current price)
- Customer master data maintenance
- Discounts for customers, items, individual categories
- Item descriptions (short- and long descriptions)
- Item database with automatic picture scaling
- Item set and variant item maintenance
- Category- and manufacturer maintenance
- Shipping prices can be individually set per manufacturer and per product
- Cross-selling (complementary products)
- Bundle (Sets)
- Subsidiary maintenance

- Offer setup module (shopping cart as offer PDF)
- Data import interface for various manufacturers and products
- Info blocks
- Customer ratings and customer test reports for items
- Password protection for the entire eShop
- Setting to show net prices following login (B2B customers)
- Shipping costs can be individually set
- Individual maintenance of payment types
- Statistics (who? what? when?)
- Interface capability for other systems (on an individual basis)
- Search-engine optimization (SEO)

From March 2010 a small integrated financial accounting system as an optional module.

#### Product catalog

Our product catalog has the same full functionality as the eShop. Only the binding offer- and payment functionality has been disabled, and a customer query function has been integrated. The supplier receives a customer enquiry. The classic business process, e.g. an inquiry per fax, is thus preserved.

The prices are generally standard list prices, plus the legal sales tax. The service

provider wants to show his entire range of services. This usually includes goods as well as additional services.

#### xdeConfigurator



#### Product configurator

Product configurators can be seen as a decisive competitive advantage by goods-producing businesses and traders, especially on the internet.

Through the advantages of a product configurator (error-free product offerings, short reaction times, minimizing of returns, raising customer satisfaction, etc.), productivity is raised across the entire business. Our product configurator is a software program, which allows products or product orders to be configured for individual customers in a standardized form.

The basis data (item data), logical units (dependencies) and the front-end (GUI) are separate from each other. All product configurators can be run with various Xavannah products, online, offline, or as a separate portal. Current examples of application areas are: glass doors, glass showers, glass mounts, ...

including special machining and a calculation of material prices according to a defined formula.

#### xdePortal

Kundeneigenes Internetportal - unser Produkt: "xde-Portal"



Die Vorteile unserer Portaltechnologie liegen darin, dass eine grundlegende Infrastruktur zur Verfügung gestellt wird, die einen Teil der Internet-Standardfunktionalität unserer Kunde bereithalten kann.

Sie als Kunde brauchen kein technisches Personal zur Installation und Betreuung eines Internetportal vorhalten. Diese Leistung wird von Xavannah gestellt und ist mit der monatlichen Miete abgegolten.

Alle Xavannah Softwaretools können optional zum späteren Zeitpunkt im Portal integriert werden.

Sie geben uns ein vordefiniertes Farb-Layout mit Firmenlogo und wir binden Ihnen dies im gesamten Portal ein. So erhält das gesamte Portal das Aussehen passend zu Ihrer Firma.

Die von Ihnen gewünschte und beauftragte (Sie bleiben Eigentümer) Internetadresse (URL wie z.B. [www.IhreFirma.de](http://www.IhreFirma.de) ) wird eingebunden.

Selbstverständlich ist der komplette Dateninhalt von Ihnen selbst verwaltbar, so dass keine weiteren Kosten durch Pflege, etc. bei Ihnen anfallen.

Beispiel: [www.das-kann-glas.de](http://www.das-kann-glas.de) für die CSP-Partner von Saint Gobain

#### xdeWebservices

Webservice / Datenschnittstellen zur Miete oder Kauf



Fast jeder Softwarehersteller stattet seine Software mit Import- und Exportfunktionen aus, um Daten auszutauschen. Jedoch sind diese Schnittstellen teilweise sehr komplex, so dass Zusatzprogramme entwickelt

werden müssen. Dies ist der Bereich der Schnittstellenprogrammierung.

Unser Spezialgebiet ist eine Programmierung von Schnittstellen als Webservices (eCommerce Service oriented Architecture z.B. als XML Opentrans, XML BMECat oder EDIFact). Ein Webservice unterstützt die direkte Softwarekommunikation unter Verwendung der IT-Metasprache XML (Extensible Markup Language). Webservices können wir Ihnen entwickeln, um beispielsweise sensible Firmendaten auf Ihren Servern zu belassen oder bereits im Einsatz befindliche IT-System anzubinden.

Selbstverständlich wird diese Leistung nicht nur als Software-as-a-Service (SaaS) angeboten, sondern auch als Kaufsoftware.

### ZANETTI MACCHINE S.r.l.

Address	Regione Fornace, 10 15070 Belforte Monferrato / AL Italy
Phone	+39 0143 823520
Fax	+39 0143 834260
Internet address	<a href="http://www.zanettimacchine.it">www.zanettimacchine.it</a>
E-Mail	<a href="mailto:zanettispare@libero.it">zanettispare@libero.it</a>
Stand	Hall 16, D73 (Page 652)

#### Product Overview

ZANETTI MACCHINE S.r.l.

glasstec.02.03.02.02 Surface grinding for moulded glass

**Product Details**

ZANETTI MACCHINE S.r.l.

glasstec.02.03.02.02 Surface grinding for moulded glass

**RETTICOR FP 12/CE/50**

straight line machine flat edge with cerium system tank (12 wheels) – The only one horizontal track system in the world.

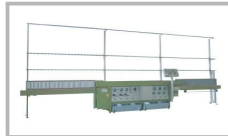


**DIAMATIC**



**POLIMATIC SPECIAL**

shape edging machine for curved safety laminated glass (for safety car).



**Zhaoqing Dali Vacuum Equipment Ltd**

Address	The First Part of Duanzhou Road 526060 Zhaoqing City, Guangdong Province China (Rep.)
Phone	+86 758 2744058
Fax	+86 758 2700648
Internet address	www.dalivacuum.com
E-Mail	dalivacuum@yahoo.com.cn
Stand	Hall 10, A04-2 (Page 628)

**Product Overview**

Zhaoqing Dali Vacuum Equipment Ltd

glasstec.02.06.01 Vacuum coating equipment

**Product Details**

Zhaoqing Dali Vacuum Equipment Ltd

glasstec.02.06.01 Vacuum coating equipment

**Single/Double Chamber Vacuum Coating Machine**

This series machine is evaporating coating machine in the vacuum environment with heating resistance, the metal wire (aluminium, copper, titanium) is fused into vapour, then the vapour deposits on the surface of the flat glass, flat plexiglas, flat plastic and ceramic and mental reflection film is formed on the surface.

Main features: 1.It adopts our patent technology which can save 30% of electric power. 2.Adopt PLC for automatic control, and good design make operation easy. 3.Different specifications can be reached in each chamber to meet different requirements, the quality is better than the traditional machine in the intense competition.

**Vertical/Horizontal Double Door Vacuum Coating Machine**

It is mainly used for coating rearview mirror, cosmetology mirror, plesiglass, ceramic and plastic with complicated shape. It adopts heating evaporating or magnetron sputtering technology to coat mental film on the surface of products.

## Zibo Natergy Chemical Industry Co., Ltd

Address	2 Mintai Road, Zibo Hi-New Tech 255088 Zibo City, Shandong Province China (Rep.)
Phone	+86 533 2318602
Fax	+86 533 2318603
Internet address	www.natergy.com
E-Mail	natergy@163169.net
Stand	Hall 10, D67-13 (Page 628)

### Product Overview

Zibo Natergy Chemical Industry Co., Ltd

glasstec.02.11.08.07 Other chemicals

### Product Details

Zibo Natergy Chemical Industry Co., Ltd

glasstec.02.11.08.07 Other chemicals

#### 3A Insulating Glass Dessiccant ( Natergy Sieve)

3A insulating glass(IG) desiccant ( NATERGY SIEVE ) is made from 3A molecular sieve. This IG desiccant can deeply co-adsorb resident moisture and organics in insulating glass, keep the IG clear and transparent even at very low outside temperature, prevent the condense of inside vapor. More importantly, it can resolve the problem of window distortion caused by IG inflation and shrink under season or day-night temperature changing, this would prolong the life span of IG windows considerably.

## ZIPPE Industrieanlagen GmbH



Address	Alfred-Zippe-Str. 97877 Wertheim Germany
Phone	+49 9342 804-0
Fax	+49 9342 804-138
Internet address	www.zippe.de
E-Mail	zippe@zippe.de
Stand	Hall 13, A31 (Page 640)

### Company News

ZIPPE Industrieanlagen GmbH

#### 08/30/2010 Further development of Batch Preheating Technology by Zippe

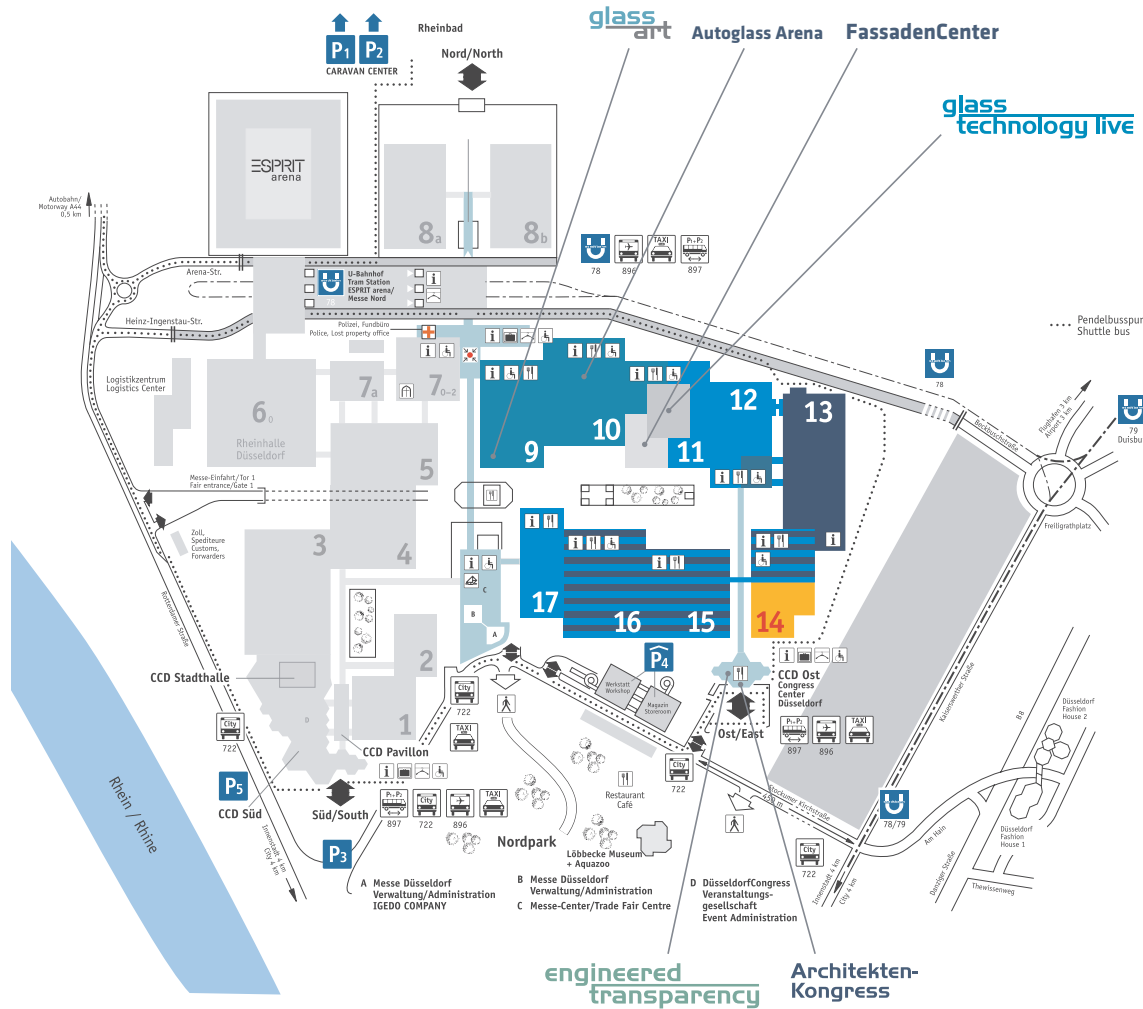
The company Zippe installed the first batch preheater for the glass industry already in 1984. After other installations followed, Zippe became a pioneer in that technology. Due to increasing energy prices, the demand for this technology, that provides significant energy savings, increased strongly in recent years. Already in 2006, Zippe initiated a research and development project (partially supported by the German government) to improve the existing technology. The aims were the application also with lower cullet content, maximum safety in operation, and high potential energy savings. After an intensive and long-term pilot project, the 2nd generation of batch preheaters, the ABP (Advanced Batch Preheater) was created and its applicability proven. By such, Zippe addresses future demands of the industry and contributes to a sustainable energy-efficient glass production.

**Product Overview**

ZIPPE Industrieanlagen GmbH

glasstec.01.03.01	Crashing and grading
glasstec.01.03.02	Drying technology
glasstec.01.03.03	Metering and weighing technology
glasstec.01.03.04	Mixing technology
glasstec.01.03.06	Cullet preparation
glasstec.01.03.07	Refuse collection and glass recycling
glasstec.01.03.08	Raw material technology and prewarming cullet technology
glasstec.01.03.09	Colour sorting (cullet)
glasstec.01.03.11	Batch calculation and glass property prediction
glasstec.01.04.01	Batch charging technology
glasstec.01.04.12	Processing of water cooling for cullet treatment
glasstec.01.10.02	Cullet transportation
glasstec.01.13.02	Transport and handling systems
glasstec.02.01.04.01	Mechanical snapping devices
glasstec.02.12.01	Treatment of used glass
glasstec.02.12.05	Waste water treatment

glasstec.05.01.01.01	Measurement and control of glass position detection
glasstec.05.01.05	Control and automation technology
glasstec.05.02.01	MRP machine and transport adjustment
glasstec.05.03.04	Process control systems
glasstec.06	Contracting, consulting, engineering, services
glasstec.07.02	Specialised Publishers
glasstec.07.03	Trade associations/Organisations



Stand: März 2010 / As of: March 2010  
 Änderungen vorbehalten / Subject to change.

# glasstec

Hallen/Halls 9-17

Hallen/Halls 9-11

Glasprodukte und Glasanwendungen  
 Glass products and applications

Hallen/Halls 11-12, 14-17

Glasbearbeitung und-veredelung  
 Glass processing and snapping technology

Halle/Hall 12

Messtechnik, Steuertechnik,  
 Regeltechnik, Software  
 Measurement, testing,  
 control technology and software

Hallen/Halls 13-16

Glasherstellung, Produktionstechnik  
 Glass production, production technology

Halle/Hall 14

# solarpeq

» Zusätzliche Aussteller  
 mit solarpeq Angeboten  
 in den glasstec-Hallen  
 In these halls exhibitors  
 of glasstec with additional  
 solarpeq products are located

Messe Düsseldorf GmbH  
 Postfach 10 10 06  
 40001 Düsseldorf  
 Germany  
 Tel. +49 (0) 211/45 60-01  
 Fax +49 (0) 211/45 60-6 68  
 www.messe-duesseldorf.de

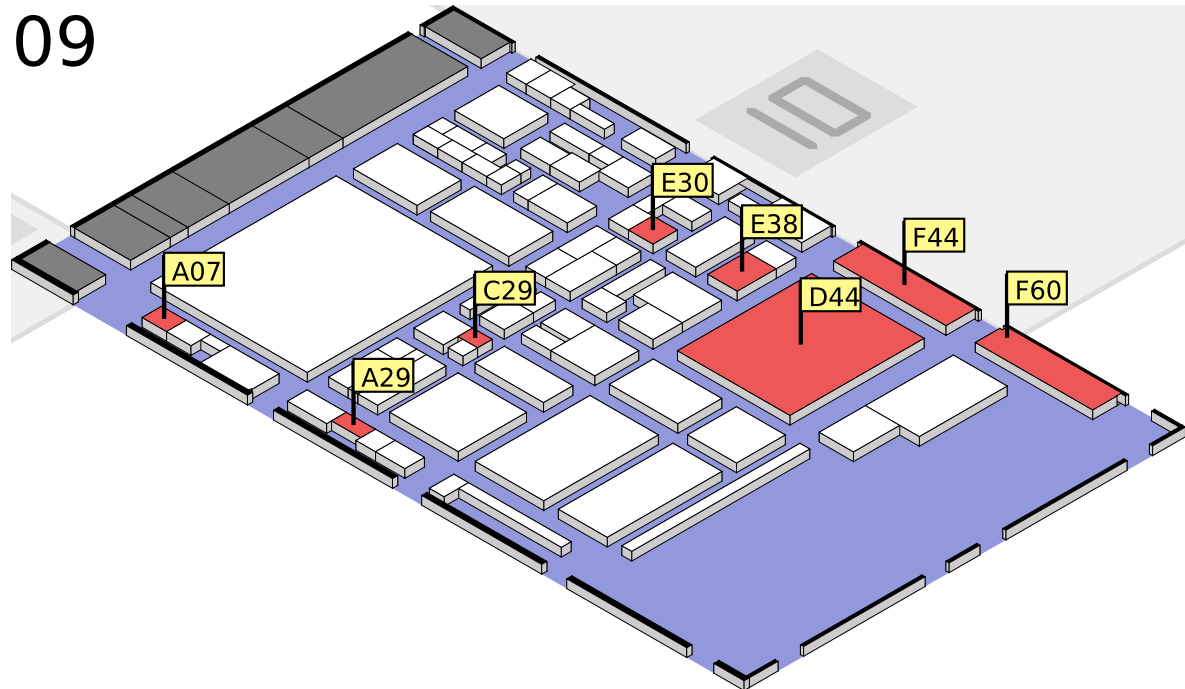


Messe  
 Düsseldorf



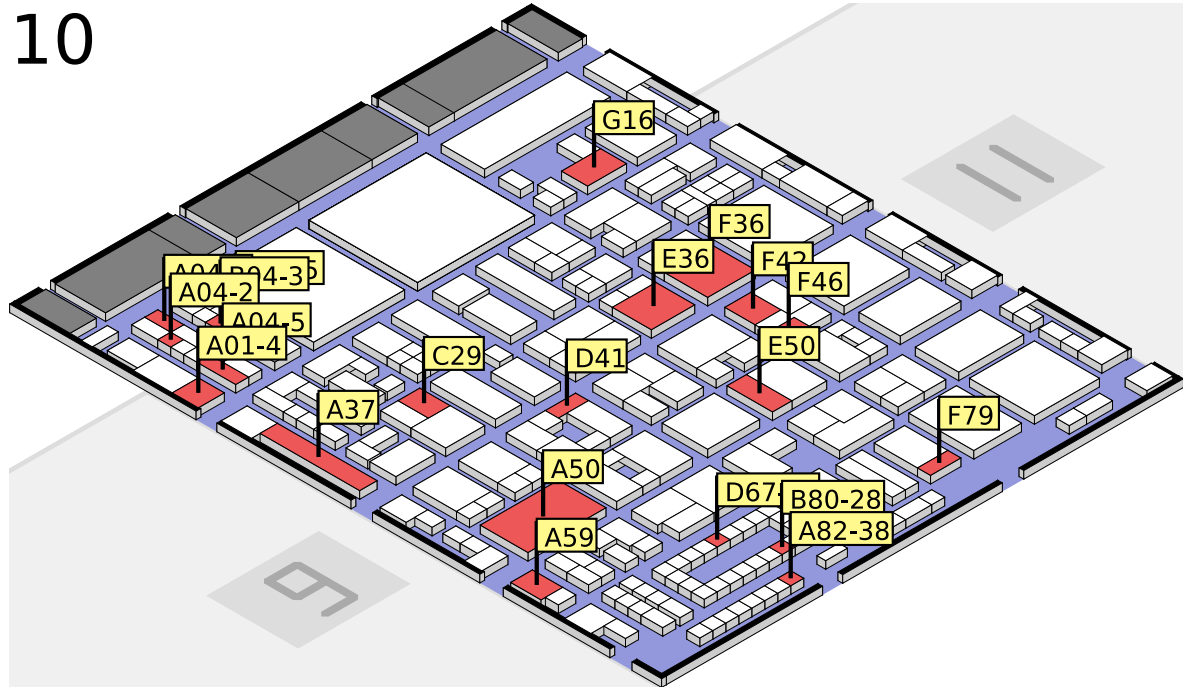
## 2.1 Hall 09

A07	Loxal Engineering Adhesives S.r.l.
A29	Biedermann GmbH
C29	B&M Concepts s.a.r.l.
D44	Bohle AG
E30	Kurt Merker GmbH
E38	Mitsubishi Diamond Industrial Co., Ltd.



## 2.2 Hall 10

A01-4	Suntech Machinery Co., Ltd.
A04-2	Zhaoqing Dali Vacuum Equipment Ltd
A04-5	Foshan Shunde Hiseng Glass Machinery Co., Ltd.
A04-9	Shenzhen Juisun Screen Printing Machinery Co., Ltd.
A37	GLASTRONIC GmbH
A50	CR Laurence of Europe Limited
A59	Smart-BUILDER
A82-38	Qingdao Huarui Glass Products Co., Ltd.
B04-3	Torlin Chemicals (Shanghai) Co., Ltd.
B04-5	Wuhan Ritop Machine Co., Ltd.
B80-28	Beijing Huali Architecture Decoration Co., Ltd.
C29	Nanogate AG
D41	Prodim International B.V.
D67-13	Zibo Natergy Chemical Industry Co., Ltd
E36	Kuraray Europe GmbH, Division TROSIFOL

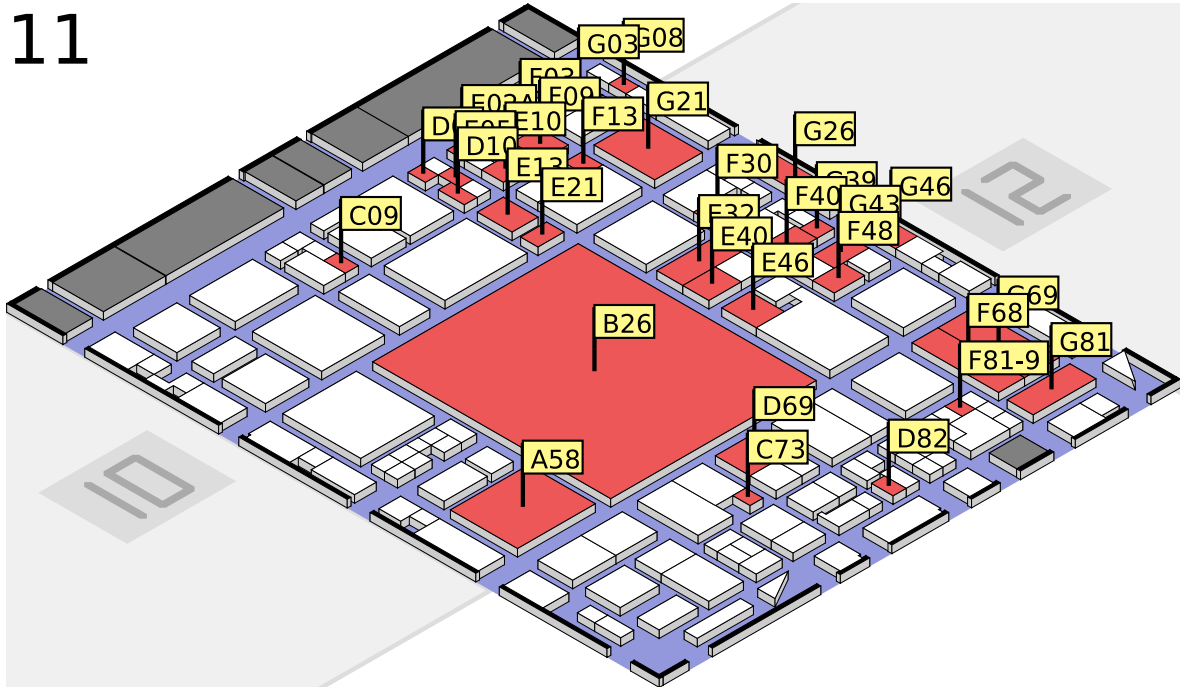


### Hall 10, Continuation 1

E50	Panacol-Elosol GmbH
F36	DekorGlass Dekoratif Cam San. Tic. Ltd. Sti.
F42	JUTEK® Hitzeschutz GmbH
F46	Jiangmen Jiangyi Machinery Co., Ltd.
F79	ASRE-Werkzeugfabrik, Arthur Schlieper GmbH & Co. KG
G16	Mingte Glass Technology Co., Ltd.

### 2.3 Hall 11

A58	Solutia Europe
B26	Grenzebach Maschinenbau GmbH
C09	SUN-TEC Swiss United Technologies GmbH
C73	Officine M.T.M. S.p.A.
D04	Tokai Carbon Italia S.r.l.
D10	MURE & PEYROT
D69	Ferro Corporation, Glass Systems Division
D82	Lema S.r.l.
E02A	LUOYANG GANGXIN GLASS TECHNOLOGY CO., LTD.
E05	Consystem GmbH
E10	GMC For Glass Industry
E13	Digregorio S.r.l.
E21	Thermtech GmbH
E32	Umicore Thin Film Products AG
E40	AEG Power Solutions GmbH

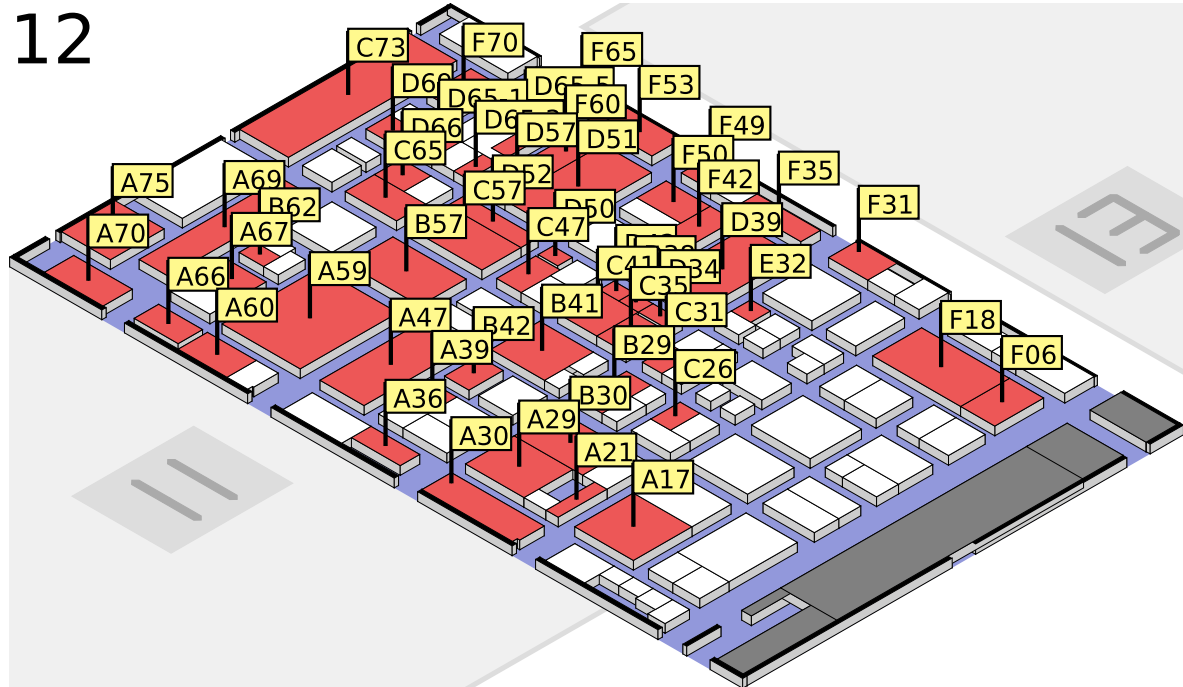


**Hall 11, Continuation 1**

E46	HUNTSMAN (Germany) GmbH, Osnabrück Betriebsstätte	G46	INDUSTRIAL OLMAR , S.A.
F03	Nanjing Kin Yong Fa Plastic Mfg. Co., Ltd.	G69	MAPPI INTERNATIONAL S.r.l.
F09	Putsch Meniconi S.p.A.	G81	Fotoverbundglas Marl GmbH
F13	Janbac-Baudin (Groupe)		
F30	Blokkiln BV		
F40	boraident GmbH		
F48	Eastech Digital Technology Co., LDT		
F68	G.F.P.M. S.r.l.		
F81-9	Hochschule für angewandte Wissenschaften München		
G03	Qinhuangdao Yuntongglass Mech-Electro Technology Co., Ltd.		
G08	Arkema Inc.		
G21	TUROMAS-TECNOCAT		
G26	SULAK Glass Working Machinery		
G39	AKAR MAKINA SAN. TIC. LTD. STI		
G43	SIMTECH		

## 2.4 Hall 12

A17	CER - CERFOILS
A21	Gläser Sandstrahltechnik GmbH & Co. KG
A29	Durst Phototechnik Digital Technology GmbH
A30	Guangdong Enkong Machinery Co., Ltd.
A36	Friedrich Goldmann GmbH & Co. KG
A39	Hiltex Semi Products bv
A47	Guangdong IVACO Glass Technology Co., Ltd.
A59	DIP Tech
A60	Unterreiner Maschinenbau GmbH
A66	Biebuyck S.A.
A67	TMT Technology Manufacturing and Trading
A69	Bassra Machine Tools Ltd.
A70	ESC Europa-Siebdruckmaschinen-Centrum GmbH & Co. KG
A75	Cooltemper Ltd.
B29	Bekaert Advanced Coatings N.V.

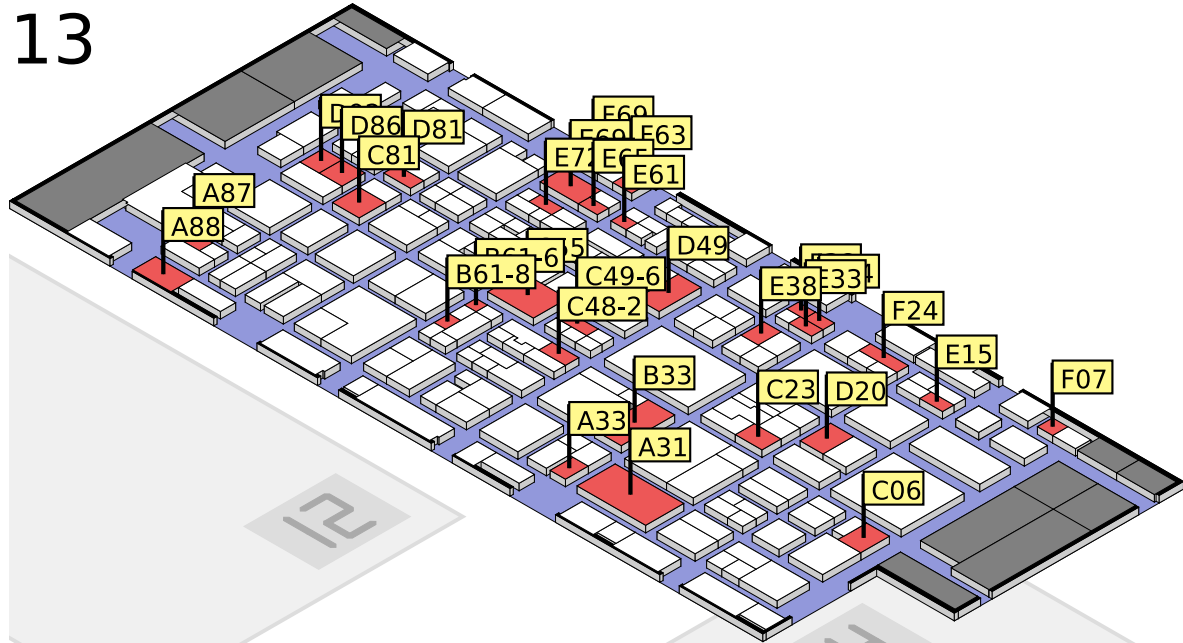


### Hall 12, Continuation 1

B30	Rudi KNOPP Maschinen GmbH	D39	Guangdong Fushan Glass Machinery Co., Ltd.	F35	Champion Glass Machine Co., Ltd.
B41	TESOMA GmbH	D42	Dias Turnov, s.r.o.	F42	Arcotec GmbH
B42	AnHui YinRui Glass Machinery Co., Ltd	D50	BYC Group UNITED Ltd.	F49	FHR Anlagenbau GmbH
B57	Linshi Glass Machinery Co., Ltd.	D51	Landglass Technology Co., Ltd.	F50	Leybold Optics GmbH
B62	IBG Monforts Walzentechnik GmbH & Co. KG	D52	MHG Strahlanlagen GmbH	F53	Glassrobots Oy
C26	Wieland Edelmetalle + Technologie GmbH	D57	MACHINES DUBUIT SAS	F60	PEMCO International, c/o PEMCO Emails S.r.l.
C31	Process Materials, Inc.	D65-1	RK Siebdrucktechnik GmbH	F65	Beijing Hanjiang Automatic Glass Machine Equipments Co., Ltd.
C35	Pneumofore S.p.A.	D65-3	Roland DG Benelux N.V.	F70	ISIMAT GmbH - Siebdruckmaschinen
C41	KAMMANN Maschinenbau GmbH	D65-5	SAATI S.p.A.		
C47	Grünig-Interscreen AG	D66	GfE Metalle und Materialien GmbH		
C57	Thieme GmbH & Co. KG	D69	HASAL Ltd. Sti.		
C65	Softeco Oy	E32	Cugher Glass S.r.l.		
C73	Shanghai Northglass Technology Industrial Co., Ltd.	F06	Johnson Matthey B.V.		
D34	Angstrom Sciences, Inc.	F18	MSC & SGCC		
D38	Polpur spol. s.r.o.	F31	Gardner Denver Schopfheim GmbH		

## 2.5 Hall 13

A31	ZIPPE Industrieanlagen GmbH
A33	AEROGAS GmbH
A87	Area Impianti S.p.A.
A88	Fickert & Winterling, Maschinenbau GmbH
B33	Neutra GmbH
B61-6	A.W.T. World Trade Inc.
B61-8	Citala
C06	KREISEL GmbH & Co. KG
C23	futronic GmbH
C48-2	Stewart Engineers
C49-6	Glassline Corporation
C55	Glasstech, Inc.
C81	Vesuvius France SA
D20	Antonini S.r.l.
D49	Schunk Kohlenstoff Technik



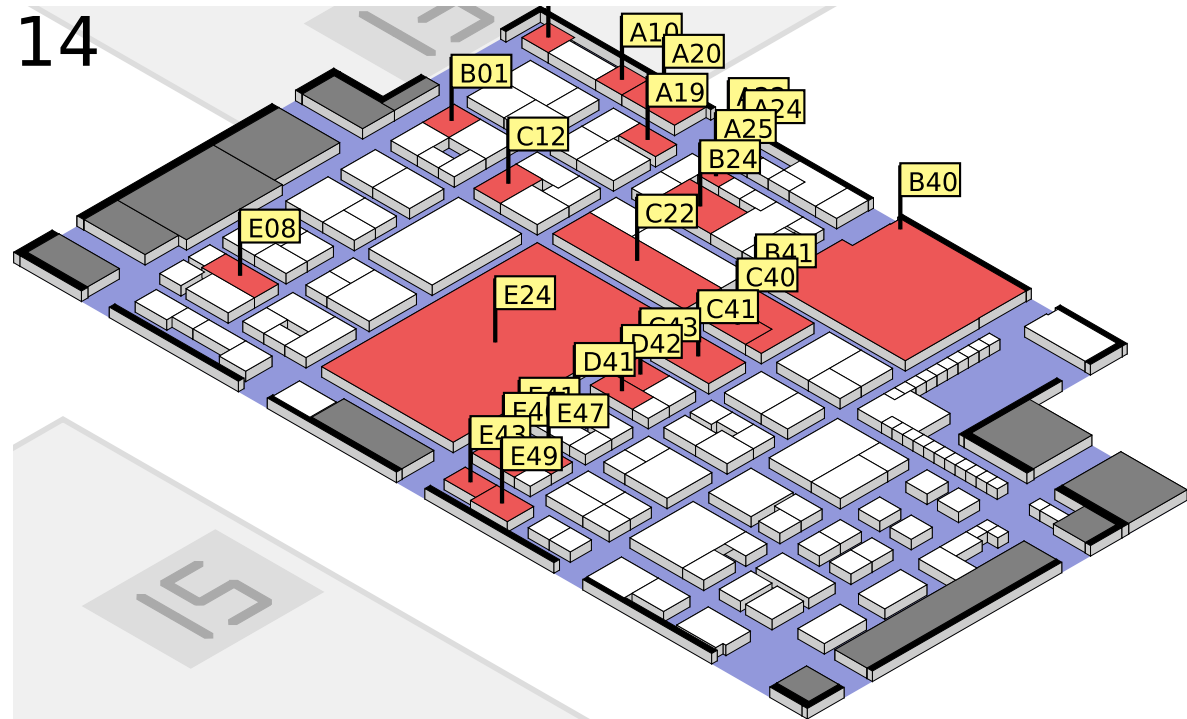


**Hall 13, Continuation 1**

D81	Athena Engineering & Construction	F69	ANSUN Protective Metals, Inc.
D86	SKLOPAN LIBEREC, a.s.		
D92	Lincoln GmbH, Zentralschmiersysteme		
E15	Galaxy Chemical (Dalian) Co., Ltd.		
E33	Anglo Carbon		
E38	Frenzelit-Werke GmbH & Co. KG		
E61	TIBTECH innovations		
E65	Suministros Vitrosep, S.L.		
E69	VETRO TOOL S.A.		
E72-7	Linyi Young Sunrising Machinery Co., Ltd.		
F07	AGK Hochleistungswerkstoffe GmbH		
F24	B. Beyer GmbH		
F34	Ferlam Technologies		
F38	Condat		
F63	SAFINA, a.s.		

## 2.6 Hall 14

A02	Sogelub S.A.
A10	Panasonic Electric Works Europe AG
A19	Nippon Seisen Co., Ltd.
A20	Bosch Rexroth AG Antriebstechnik Zahnkette
A22	Xavannah dataprocessed engineering, Henner Hucker & Denis Schmiscke GbR
A24	Cleanfix Abfallservice GmbH
A25	GPIInnovation GmbH
B01	Marker Italia S.r.l.
B24	Rjukan Metall Masin OG Profil A/S
B40	Glaston Tamglass, Glaston Uniglass
B41	Fenetech Inc.
C12	CSG AUPOS IT-Solution GmbH ERP/PPS Branchensoftware
C22	Bystronic Lenhardt GmbH
C40	Viprotron GmbH
C41	Fraunhofer-Institut für Schicht- und Oberflächentechnik (IST)

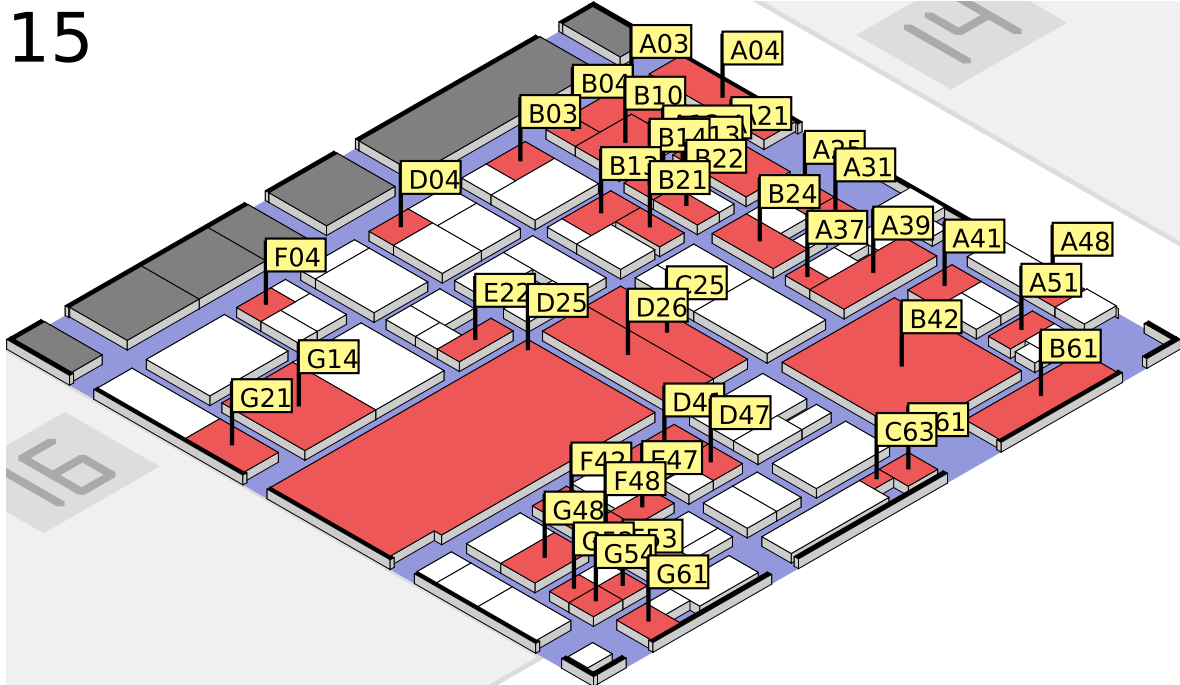


#### Hall 14, Continuation 1

C43	EUROWATER Wasseraufbereitung GmbH
D41	ECOTECNE Srl
D42	CiT GmbH
E08	LASEA
E24	Bystronic Maschinen AG
E40	Maschinenbau GEROLD GmbH & Co. KG
E41	Stiefelmayer-Contento GmbH & Co KG
E43	Olbricht GmbH
E47	BRF-Solutions GmbH
E49	EWK Umwelttechnik GmbH

## 2.7 Hall 15

A03	euroTECH GmbH
A04	Ashton Industrial
A13	Nirvana Technologies (P) Ltd.
A13-A	REDWAVE - a trademark of BT-Wolfgang Binder GmbH
A25	EnviroFALK GmbH, Prozesswasser-Technik
A31	TERRUZZI FERCALX SPA
A37	ARTIFEX, Dr. Lohmann GmbH & Co. KG
A39	Klöpper Maschinenteknik GmbH & Co. KG
A41	DR.-ING. SCHMITT GMBH
A48	SCHOLZ GmbH & Co. KG
A51	GTA - Glastechnik-Anlagenbau GmbH
B03	Erdmann Enterprises Deutschland GmbH
B04	HS Glass Printing SRL
B10	Elmak Elektronik Makina San. Tic. AS
B13	Nedex Kimya San. ve Tic. A.S.

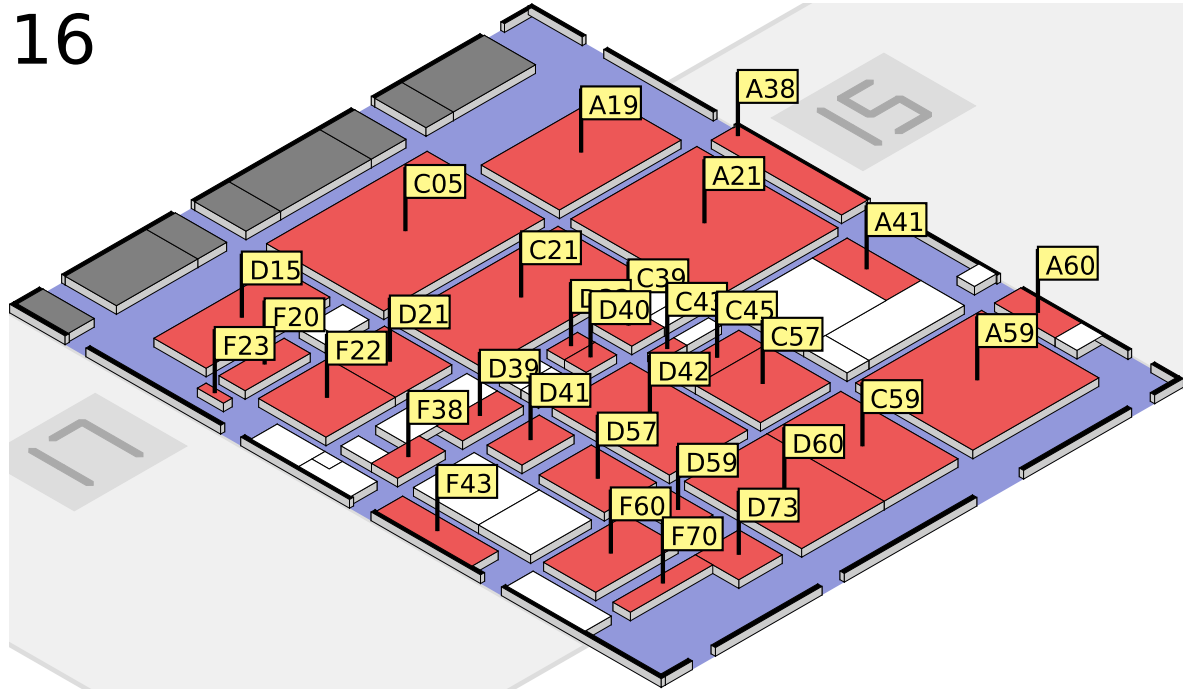


### Hall 15, Continuation 1

B14	CONTEX GmbH, HM-Verschleißtechnik	F42	SOFTSOLUTION GmbH
B21	Pannkoke Flachglastechnik GmbH	F48	Aachener Chemische Werke GmbH
B24	JSJ Jodeit GmbH	F53	TECNOMATIC
B42	Grenzebach Maschinenbau GmbH	G14	Benteler Maschinenbau GmbH
B61	Bando Kiko Co., Ltd.	G21	ENSINGER GmbH
C25	IGIS Co., Ltd	G48	Buxtrup Maschinen- & Anlagenbau GmbH
C61	ELATECH S.r.l.	G52	Maroso S.r.l.
C63	STA Separatoren-Technik & Anlagenbau GmbH	G54	L.M. S.r.l.
D04	Mippec AG	G61	MALNATI S.A.S. DI MALNATI ANTONELLA & C. S.A.S.
D25	HEGLA GmbH & Co. KG		
D41	Grafotec Spray Systems GmbH		
D47	McGill AirClean		
E22	KSL staubtechnik gmbh		
E47	O.C.S. Glass S.r.l.		
F04	Diamant-Gesellschaft Tesch GmbH		

## 2.8 Hall 16

A19	Elmag S.p.A.
A21	FOR.EL S.p.A.
A38	RBB Brazzi Roberto SRL
A41	Rollmac
A59	Intermac Glass and Stone Division
A60	CEFLA Finishing Group
C05	Bottero S.p.A.
C39	Optima S.r.l.
C43	Helios Italquartz S.r.l.
C45	ROLLTECH A/S
C57	Fenzi S.p.A.
C59	Forvet S.r.l.
D15	Neptun S.r.l.
D21	Schiatti Angelo S.r.l.
D32	Italmatic Presse e Stampi S.r.l.

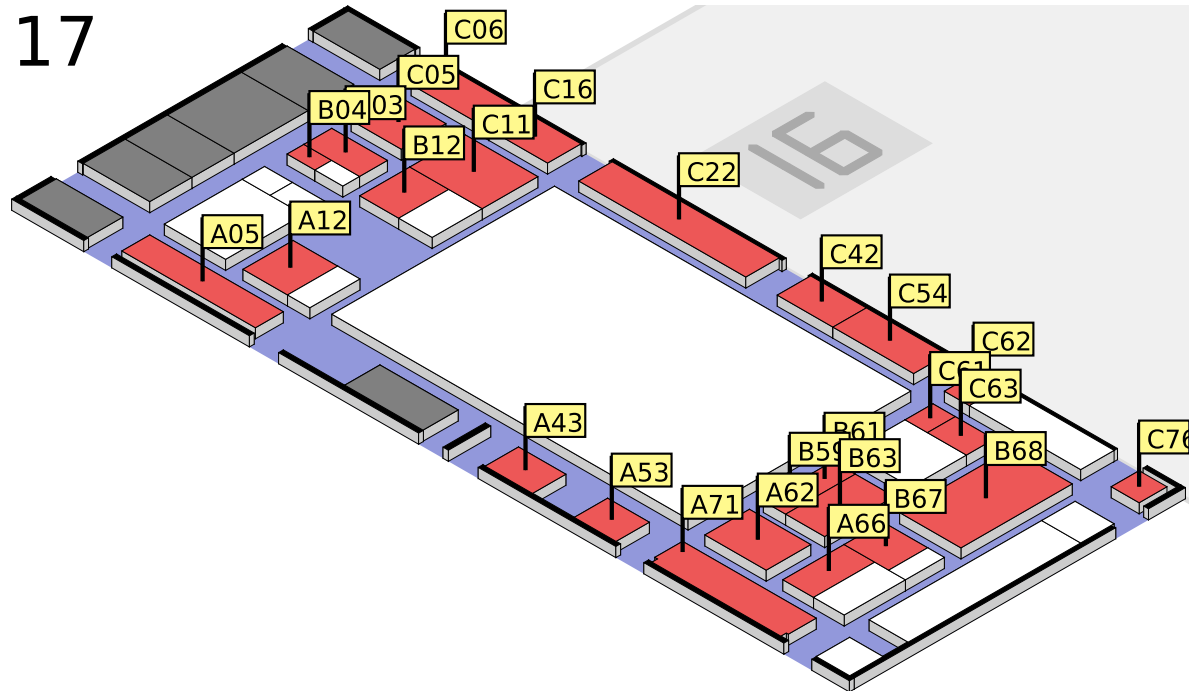


### Hall 16, Continuation 1

D39	ADI S.p.A.
D40	Bovone Diamond Tools S.r.l.
D41	Fratelli Pezza S.r.l.
D42	Elettromeccanica Bovone S.r.l.
D57	Lovati Fratelli S.r.l.
D59	IMSA IMPEX S.r.l.
D60	Keraglass Engineering S.r.l.
D73	ZANETTI MACCHINE S.r.l.
F20	DENVER S.A.
F22	Adelio Lattuada S.r.l.
F38	Profilglass S.p.A.
F43	Marval S.r.l.
F60	MACOTEC S.r.l.

## 2.9 Hall 17

A05	Best Glass Machinery Ind. Co. Ltd.
A12	Grace GmbH & Co. KG
A43	Deutsche Hutchinson GmbH
A53	Reinhardt-Technik GmbH & Co.
A62	Allmetal GmbH
A66	KATSAN KIMYA SAN. VE TIC. LTD. STI.
A71	optimac glass machinery, optimac cam makina sanayi tic. ltd. sti.
B04	BARNACORK, S.L.
B12	Jinan Deca Glass Machine Co., Ltd.
B59	Forza G Italia S.r.l.
B61	Italmole S.N.C. di Venturi G & C
B63	Tenon (Beijing) Equipment Co., Ltd
B67	Bostik Ltd.
B68	Edgetech Europe GmbH
C03	eco international GmbH & Co KG





### Hall 17, Continuation 1

C05	Hangzhou Zhijiang Silicone Chemicals Co., Ltd
C06	IGK Isolierglasklebstoffe GmbH
C11	Helmut Lingemann GmbH & Co. KG
C16	Helantec GmbH
C22	KÖMMERLING CHEMISCHE FABRIK GMBH
C42	DGT-Anlagen und Systeme GmbH, KB Gastechnik
C54	HDT Hochdruck Dosier Technik GmbH
C61	GSS German Spacer Solutions GmbH
C62	IDROTECNICA s.r.l.
C63	Tenax Grupa, Tenachem Ltd.
C76	METAL UNION Sp. z o.o.