



Forel:

'VERTICAL' GROWTH IN TECHNOLOGY AND APPLICATIONS

Being on the scene since 1976 gives a true leading position regarding the glass industry and its needs and demands. And the company in this article – Forel is not only one of the industry's most well-known firms, but also a true leader in its field – vertical glass processing. We spoke to Forel to get some information on how the company is dealing with the European and global market changes.

“Forel was founded in 1976, by the two Vianello brothers, Fortunato and Elio, and, since 1992, has been under the sole control of Fortunato Vianello, who has led the company through growth and

At the recent Vitrum trade fair, Forel had on show some of its most famous machines, with technical updates, as well as its most recent developments. The company – in the forefront for vertical glass processing since 1976 – has also expanded operations with the opening of two new international branches in the United States and Russia.



developments. He continues to take active part in the company's activities, along with his wife, son and daughter, who all have management positions, and therefore the second generation of the family is already present in the company.

We officially inaugurated our larger premises in 2007, after moving production first and then our commercial offices, in 2005-2006. This means that we now take up an area of about 18,000 square metres, which include our premises at

Roncade, Treviso, and Meolo, Venezia.

INTERNATIONAL EXPANSION

Glass-Technology international (GTI):

This year, Forel made some very important decisions with the opening of two new branches in the United States and Russia.

Forel:

"We decided to open the new branches after careful market analyses, which showed how

EM-GM VERTICAL GRINDING MACHINES - FLEXIBILITY AND CONSISTENCY

Forel's EM & GM series of vertical edgers are proven process technology. Since introducing this equipment to the market in 2007 there are now installations in nearly 25 different countries worldwide including Argentina, Australia, Austria, Belarus, Brazil, Bulgaria, Canada, France, Japan, Germany, India, Italy, New Zealand, Peru, Poland, Portugal, Russia, Slovenia, United States, Sweden, Ukraine, Uruguay. Many customers currently utilize our grinders non-stop on three production shifts and have replaced traditional edgers that require excess operator intervention or long set-up times. Feedback from customers about the speed and versatility of the equipment is exceptional. Forel has uniquely created its own process market segment through innovation and patented technology that place it above the competition and others who may attempt to imitate our success in this area. Originally Forel created vertical grinders to satisfy customer requests for the processing of the edge of glass in order to integrate and match fast production cycles of the insulating glass. Additional developments created a series of features which allow the equipment to be used off-line or in connection with tempering furnaces or solar panel production, for instance. During Vitrum 2013 Forel presented the latest updates and innovations that simplify the process and increase reliability even more. Currently there are also developments underway to offer new features and performance including pre-processing operations such as drilling/countersinking for applications such as interior and furniture glass.





these two global areas will certainly be the ones to see the most growth in the near future.

The US and Russian branches will be more than just commercial offices, as they will provide direct service on warehouse stock of parts and, of course, post sales activities, as well as technical and commercial services.

Everything will be in local language, and will be extremely easy and fast, as well as reducing costs for clients there.

People working there will be Forel personnel, and all operations will be controlled by the company.

We also have our commercial network around the world, known under their own local names, with agents and distributors.

GTI:

“Do you think that there will be more Forel international branches in the future?”

Forel:

Not right now, but who knows?”

Our aim at the present is more of that of taking these two branches up to the best level possible to ensure our clients and customers the best service that they have always had from Forel.

Worldwide markets

This year especially, we have seen important growth in Canada (and the United States), where we have an important installation network, which is undergoing growth and is gaining an important

SEALING ROBOT WITH “GULLIVER” CONVEYOR SYSTEM FOR BIG LOADS

After more than 20 years of experience in this technology, Forel takes another step forward revolutionizing automatic sealing. The new model, presented at Vitrum 2013 is an extremely flexible machine as it can be customized according to requirements. Forel is, in fact, able to provide a wide assortment of nozzles for the realization of multiple and varied finishings such as secondart sealing. An example is the spatula of the window offset, or the filling of a very deep cavity with the possibility to decide how much product to lay on the bottom. These types of applications require total and precise control of the sealing process both from the mechanical point of view and from the software, as well as a long experience in the field. Features which are, today, the strength of the company. Now even two pumping units for two different sealants and with higher flow rates can be placed inside the space of the structure without obstructing the working area in front or behind the machine. The Spatula system for the processing and finishing of corners remains the same. This system, which is one of Forel’s flagship products, also provides high levels of aesthetic finishes, which can also be carried out manually by other methods such as sponging. The harmonic steel spatula is placed on the corner before the start of the extrusion process by forcing the sealant to fill all the cavities of the spacer frame, even those which cannot be inspected visually. At the end of operations, returning to its initial position, the spatula smooths the product, resulting in an aesthetic finish. Another important aspect is the transport system studied by Forel. The drive system of the new sealer is a guarantee of safety and reliability as it remains united and compact without ever leaving dangerous gaps below the IG unit. Total thickness up to 100 mm, offset up to 100 mm and the max load is as high as 450 kg/m. are all managed with a single vertical movement.





leadership position. More growth is being seen in Russia, Japan, New Zealand and Australia, while we are studying Latin America and North Africa on a long-term scale.

Europe, of course, continues to maintain its good market share even in this highly adverse crisis period.

VITRUM

This year, for the first time at a trade fair, we decided not to put on show an entire line, but to focus on six different machines. These were on display on little 40-centimetre-high stages, thus highlighting them even more. The choice to do this was

made to give more emphasis to each single process, and present in the best way possible all the details that our machines have and feature.

Sealing robot with 'Gulliver' conveyor system

Speaking about the three most important machines at Vitrum, we can start with the sealing robot with the so-called 'Gulliver' conveyor system, indicated for extreme loads.

Twenty-two years after its creation, Forel has decided to update this machine to follow market requests and demands regarding increased production, updated system and extreme loads, all in consideration of the increasing use of triple-glazing, and all at high speed, of course! This machine is destined to be and remain the market leader for the next 10 years, especially due to the fact that glazing is becoming more and more important with many buildings having impressive glass façades ...

Profile bending

Forel also had on show its new profile bender, indicated especially for the 'Smart Arm bending of warm edge rigid profiles'. This re-designed machine has reduced dimensions – from 13 to 11 metres

PROFILE BENDER FOR THE SMART BENDING OF WARM EDGE RIGID PROFILES

Forel has a new product to meet the changing and growing needs of warm edge profiles. The evolution of these products, almost always made of more than one material, such as steel and plastic, have led the company to look for new solutions and to innovate a technology that Forel has 25 years of experience of. For Forel, the goal is not simply to give a shape to the frame, we need to have precise dimensions and the ability to do it with excellent cycle times.

With all profiles, Forel also achieves other important objectives which today determine and define new quality standards for the quality of spacer frames. Let's start from our corner that has an important feature: on the side of the spacer, bending must generate a surface upon which we can draw two lines >3 mm wide continuously. Only this way the butyl applied here will find adequate contrast between glass and spacer during pressing, deforming and perfectly sealing the inner chamber. For this reason we have prepared a small tool, a transparent sheet with which you can carry out a test by overlapping it to a sample bent at 90°. Upon completion of the angle the new profile bender recalibrates its thickness. During the bending process, in fact, the material deforms tending to "grow" a few tenths of a millimetre. For this reason, once the corner has been created, it is then pressed, bringing the profile back to its initial width. A new continuous drive system increases productivity up to 180 frames per hour and has helped to reduce the overall dimensions of the machine in length by two meters compared to the previous model. A new tool enables to cut different materials without burrs cleanly and precisely. A completely redesigned stock now allows facilitated profile loading, offering a comfortable support surface and easy management of the partially used bars.

The Smart Arm is a feature never seen before - truly innovative. The new Forel system does not leave the frame swinging freely while bending, a phenomenon that stresses and deforms the freshly made folds and sides. The profile is blocked with an exclusive system that supports the frame throughout the working stages, accompanying it until the end of the process, therefore medium and large frames no longer collapse or deform due to weight, inertia and friction. In this way you get a spacer frame that meets all the technological features that today's regulations and the market require.





in length – as well as completely redesigned structure and bending head.

This machine is, in fact, now able to bend steel and plastic spacers, as well as aluminium concentrating especially on corners, which are the most important parts of frames, guaranteeing sealing with 3 millimetres of butyl.

Other than smaller dimensions, the machine has high-speed roller changeover and a 12-station ware-house, ensuring about 20-30 per cent more production, with 180 frames per hour.

Vertical grinding machines

For.El.'s EM and GM grinders are the company's tried and tested machines, sure to impress at any trade fair or glassworks.

They were introduced in 2007 and since then have been installed in almost 25 countries around the world.

The new versions on show at Vitrum had also undergone technical updates as per market requests.



For.El. Spa

FOR.EL.

Via per Monaster 4 - 31056
Roncade - Treviso - Italy
Tel: +39 - 0422 - 840507
Fax: +39 - 0422 - 840900
www.forelspa.com