



Marval

SINCE 1985



ADVANCED

INSULATING GLASS

SOLUTIONS AND TECHNOLOGIES



Marval was founded in 1985 in Mariano Comense (Como), in the heart of the Brianza industrial area, and over the years has grown from a mechanical workshop to a leading international benchmark in the **insulating glass** sector.

A success made possible by the determination and experience of the people who have worked there in just under **forty years of its existence**, all motivated by a clear desire: to make simple, reliable machines with excellent technology.

giardinagroup FINISHING SOLUTIONS 1972



AN INDUSTRIAL PARTNERSHIP

Today, Marval is in the midst of a new industrial project, a partnership between two leading companies in the instrumental mechanics industry that bring all their design and manufacturing experience to Marval, along with a commercial presence in over 70 countries worldwide.

G Technologies Group has been a key partner in the textile industry for over forty years with the **BrosioMeccanica** brand and in the graphics industry with **Giardina Graphic**.

Giardina Group has been a global leader in the finishing and coating field of all materials since 1972, and operates in the glass sector through the **Giardina Group Glass Division**.





THE PROJECT

A powerful project, which kicked off in May 2022 from the belief that glass – **insulating glass and curtain walls** – will play an even more significant role in an increasingly **green** public and private building sector, focusing on **sustainability** and fully recyclable materials from which solutions can be developed that effectively contribute to building environments with **low energy requirements**.

The Brosio and Mauri families' decision to acquire and breathe new life into Marval began when they decided to put **expertise and organisational and industrial capabilities** into an internationally-renowned brand for the quality and technical content of the solutions it offers for the production of insulating glass, machines and systems that are extremely popular worldwide and that are now designed, manufactured and tested at the new premises in Villa Guardia (Como, Italy).

OUR CHOICES

Building on the experience gained in over 35 years of business, **Marval is once again on the market** with a line of products dedicated to the creation of insulating glass.

The easy choice would have been to focus on low prices and mediocre products to once again quickly break into the market: instead, Marval decided to offer **a high quality product at a fair price.**

The engineering team has designed and manufactured **sturdy structures**, using **stainless steel** for all parts in contact with water, a choice that guarantees **durability**, solidity, continuity of production, and **elimination of any risk of oxidation.**

A good machine not only requires precise mechanical standards, but also high-performance **electronics** and, most importantly, efficient **software.**

Marval has chosen to guarantee all-round quality, consolidating privileged relationships with the **world's best suppliers and partners**, using products that always achieve the best results.

An industrial philosophy from which a range of solutions is created, aimed at **a demanding clientele** who not only look at the price, but also seek quality materials and performance consistency, knowing that they can always count on Marval's **support** and **service.**

Buying a Marval machine or line means choosing **a partnership that is destined to last.**



TECHNOLOGIES

Washing and cleaning of glass sheets, composition and assembly on aluminium spacers made "just in time", pressing and sealing.

These are the steps required to produce insulating glass, the quality of which is directly proportional to the performance and efficacy of the machines and equipment involved in the process.

Marval has always boasted an **in-depth knowledge** of the entire cycle of operations required to achieve the best finished product, an experience and expertise built up in the field, working every day alongside the most important insulating glass manufacturers in Italy and around the world.

From this "mission" came the Marval catalogue, which features:

- Complete lines;
- Panel presses;
- Vertical washing machines;
- Sealing robots
- Automatic profile benders
- Auxiliary machines and equipment (automatic butyl extruder, desiccant filler, profile conveyors, rotating tables, extruders).

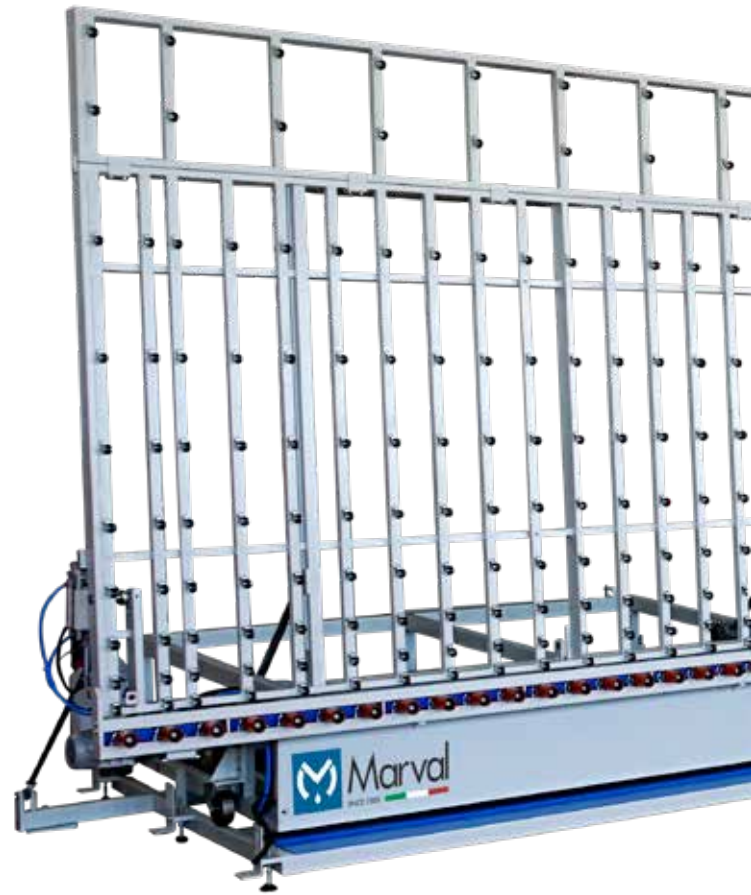


Marval has solutions, experience and expertise that enable it to design and make **special systems** that can be highly customised to meet the specific needs of any customer.

COMPLETE LINES

Marval designs and manufactures **complete lines** for the production of insulating glass, in which different parts of the plant wash, couple and press the double or triple glazing unit in rapid succession.

For those looking for the **highest performing solution**, with high levels of productivity that can be tailored to **each customer's needs**, Marval offers its own **automatic line**, where the operator only has to position the frame, which has already been butylated, on the glass at the beginning of the line. High productivity is ensured by adding the "ROBO SEAL" automatic sealing machine to the plant, which helps to exponentially speed up production cycles.





Marval also offers **semi-automatic lines** that feature the same quality and efficacy as their bigger counterparts, but are configured for companies interested in small production volumes.

The main difference is the need to seal the insulating glass manually, hence the presence of a specialised operator.

PANEL PRESSES

Marval **panel presses** can couple and press two or three glass sheets through the action of two platens, one fixed at the back and the other - movable - at the front. These are **fully automated**, PLC-controlled solutions with a convenient touch-screen panel from which the operator can control the entire process, view the diagnostics of each work cycle, and set the values of all machine functions quickly and easily. The conveyor speed is adjustable via an inverter.



The machine features:

- automatic infeed frame with special reference bars for the precise placement of the butylated frame;
- "coupling unit" and press that can produce insulating glass of up to and over 80 mm thick, according to customer specifications;
- cleaning and maintenance made easy thanks to the front movable platen opening;
- frame or tilting table at outfeed.

EASY PRESS TOP PRESS JUMBO PRESS

Panel presses “made in Marval” are available in **three versions**, depending on the size of the insulating glass unit to be produced.

The “EASY PRESS” version can produce units measuring up to 2,750×2,000 or 2,750×2,500mm; the “TOP PRESS” version is the ideal solution for sizes up to 4.000×2,000, 4,000×2,500 and 4,000×2,800 mm.

The “JUMBO PRESS” version can produce large insulating glass units (6,000×3,250 mm), with the option of making longer units (8,000 or 10,000 mm).



All versions can be equipped with the “GAS PRESS” injection bar featuring:

- gas filling through a special atomisation system located at the bottom of the machine;
- fast and efficient work cycle;
- extremely high fill rate;
- minimal gas leakage.

VERTICAL WASHING MACHINES

“TOP WASH” series vertical washing machines, made of AISI 304 stainless steel, are the perfect compromise between **reliability and durability** over time. These are highly efficient solutions thanks to their particularly robust structure, which is crucial in guaranteeing the necessary speed and efficiency to wash sheets ranging **from 3 to 50 mm thick** (“TOP WASH” version) or up to **20 mm thick** (“EASY WASH” version); operation is by six powerful brushes with a 180 mm diameter. The drive for the glass conveyor, the speed of which can be adjusted via inverter to up to 10 metres a minute, and for the brushes is located on the upper part of the machine. The interior is made entirely of **stainless steel**, which is the same material used for the three tanks equipped with pumps. Marval vertical washing machines are structured in **three sections**: infeed, washing and drying unit and outfeed. They are available in 1,600, 2,000, 2,500, 2,800, and 3,250 mm versions. The washing process is completely automatic and the PLC equipped with *touch-screen* makes it extremely easy for the operator to run it.



TOP WASH EASY WASH



Marval "EASY WASH" vertical washing machines offer a particularly **favourable quality-price-performance ratio**, while maintaining the quality of materials and construction.

They are the answer for all those companies that do not need to achieve high levels of productivity on a daily basis, but always seek the utmost efficacy and efficiency.

Featuring a **solid structure** made entirely of **AISI 304 stainless steel**, they house the drive on the top and can wash glass sheets from 2 to 14 mm thick (the machine can be fitted out for thicknesses up to 20 mm on request). "EASY WASH" series washing machines are manufactured in 1,600 mm (open), 1600/20 (closed); 2,000 mm and 2000/20 (closed) versions.

AUTOMATIC ROBOTIC SEALING MACHINE

The automatic robotic sealing machine manufactured by Marval adds the **final seal** to already coupled and pressed rectangular insulating glass panels, thereby ensuring perfect corner sealing and maximum speed.

"ROBO SEAL" is available in four versions: 2,000, 2,500, 2,800 and, on request, up to 3,250 millimetres long.

A **chain conveyor** system equipped with plugs to support the glass sheets prevents contact with the sealed part, while a front suction cup ensures that it moves precisely and correctly.



ROBO SEAL

The extruder, the beating heart of this machine, can dispense **any type of sealant** – whether it is polyphosphide, silicone or polyurethane based – or other products on the market. A multi-axis CNC controller programs and controls every step of the process, thus ensuring a perfect finish even if the spacer is not positioned correctly.

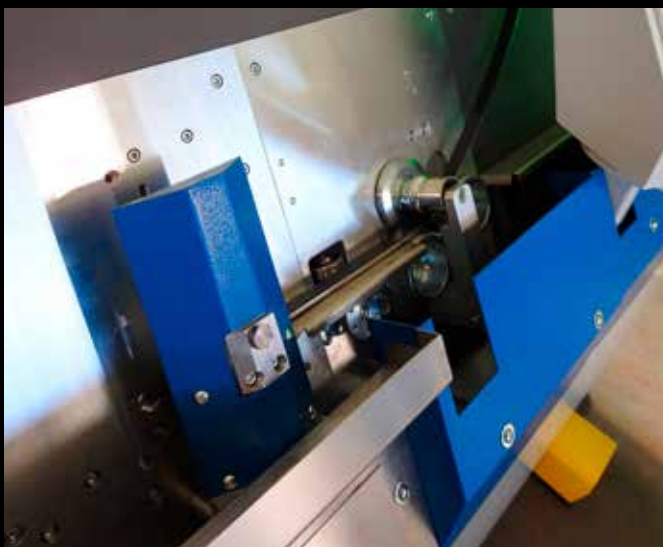
This high performance machine **can be implemented** in existing insulating glass production lines.

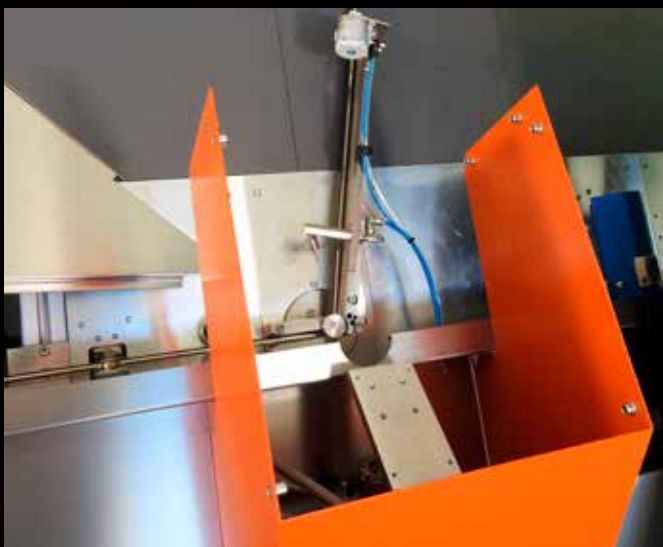


AUTOMATIC BENDING MACHINE

The "TOP BEND" automatic profile bender expresses **the highest level of technology** requested today from worldwide markets for the manufacture of insulating glass frames. The perfect response to meet the needs of companies that want to stand out for their quality and flexibility. The different configurations available are able to bend various types of spacers in straight or curved shapes.

Simple and compact, "TOP BEND" is ready to execute any operation required for this specific process, achieving considerable recognition for its performance and price-quality ratio.





AUXILIARY MACHINES AND EQUIPMENT

AUTOMATIC DESICCANT FILLER TOP DRY

Using the "TOP DRY" desiccant filler enables the **spacers to be filled** automatically: the only operation required of the operator is to load and unload the profile.

The versatility of this machine makes it possible to process profiles of completely different materials, from aluminium to steel, including the so-called "warm edge" (Thermix, TX.N Pro, Swisspacer Ultimate, Tgi Spacer M, Tgi Spacer Precision, Thermobar, Multitech, Swisspacer Advance, Chromatech Ultra, Thermix Low Psi).

Simply pressing the machine's start button starts the processing cycle, which entails drilling the holes in the profile, filling them with desiccant and sealing the holes with butyl. The control panel on board the machine means that the "TOP DRY" is very small.

The use of appropriately sized drums, from which the machine automatically takes the desiccant, guarantees excellent autonomy.



BUTIL EXTRUDER TOP JOINT

The Marval butyl extruder is used to **apply butyl** (first barrier) on the double glazing spacer profile.

It seals profiles from 6 to 30 mm, simultaneously on both sides, with a high quality result.

The extrusion heads can be opened manually or, on request, completely automatically, and a simple adjustment is all it takes to seal even shaped frames.

The Marval butyl extruder features:

- variable speed up to 32 metres per minute;
- full operation on spacer profiles from 6 to 27/30 millimetres;
- vice for butylating oversized profiles.

An **automatic version** is also available in which each function is managed and controlled by PLC.



SEALc COLD EXTRUDER

The **cold extruders** designed and manufactured by Marval are the ideal solution for final **manual sealing** with polyphosphoric and silicone products.

“SEALc” cold extruders also feature:

- hydraulic drive for the dosing pump and mixer;
- electronic pressure control.



SEALh HOT EXTRUDER

The “SEALh” hot extruder is the device that makes sealing insulating glass sheets extremely **simple and effective**. This device has a special cast-iron pump, a heated aluminium tank for the sealant, a volume controller, a heated pipe and a thermoplastic gun.



ROTATING TABLE

The rotating table designed and manufactured by Marval allows the operator to process the glass sheets **comfortably and efficiently**.

Equipped with a speed adjustment system and suction cups that ensure effective glass clamping, Marval's rotating table allows even small insulating glass sheets to be processed.



PROFILE CONVEYOR

A device to handle **spacer frames**, a storage unit structured to better organise the processing steps before the pressing line.



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