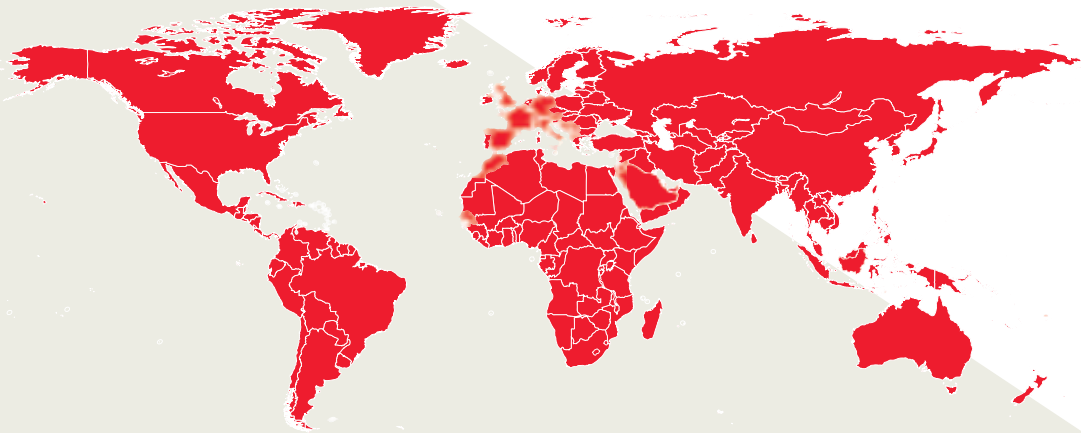




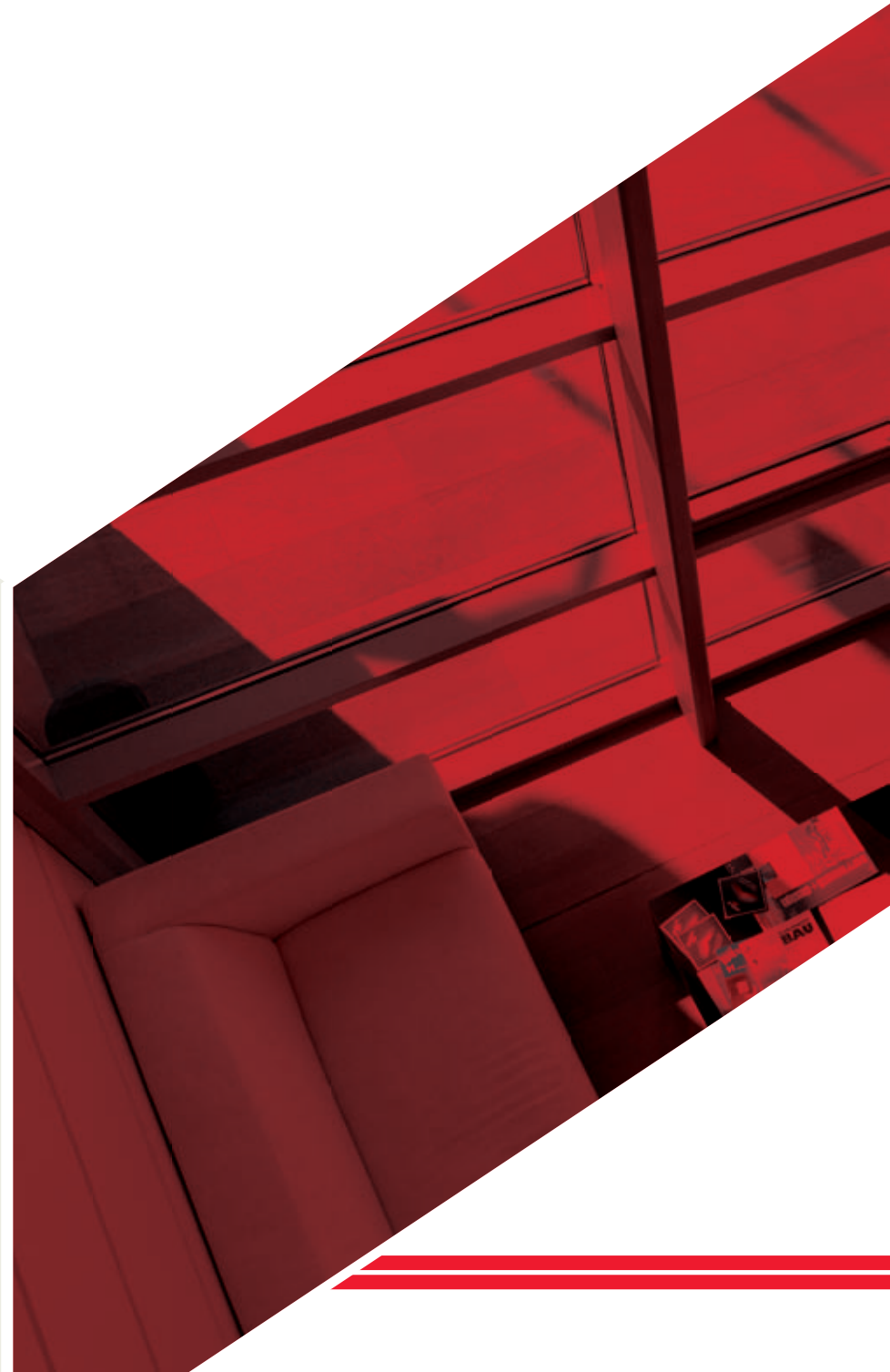
SL4-FF EVO

WORLD'S BEST
TECHNOLOGY FOR
WINDOWS AND
DOORS SYSTEMS
IN PVC





GRAF SYNERGY has its headquarters and own production located in Modena - Italy, the birthplace of modern mechanics. We export to the world all the know-how and equipment of the highest technological content, safe, reliable and easy to use, for the manufacture of windows and doors made of PVC and aluminum.





What we offer to windows manufacturers is a center of excellence where experts in mechanics, electronics and computer work in synergy to offer highly innovative solutions. With a production of machinery and equipment that respond perfectly to the needs and requirements of both small manufacturer and major industries, we are proud to be strategic partners of companies that aim, above all, technological development. The applied research reflects the entrepreneurial dynamism and the results confirm our professionalism.





Total elimination of the weld seam.

Welded corner surface is perfectly flat and homogeneous, without any further need of milling, painting or manual refining.

Perfect shape also in curved profiles.

The rounded corner is plain and free of imperfections to avoid any risk of scratches.

Impeccable aesthetics even in the most hidden parts.

The weld profile does not have discontinuities nor imperfections throughout its processing.



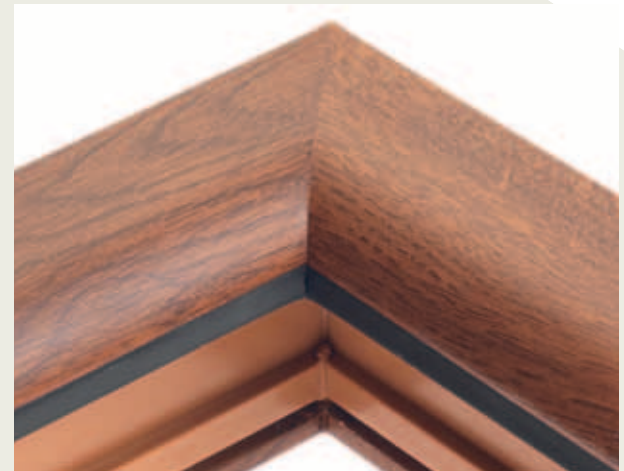
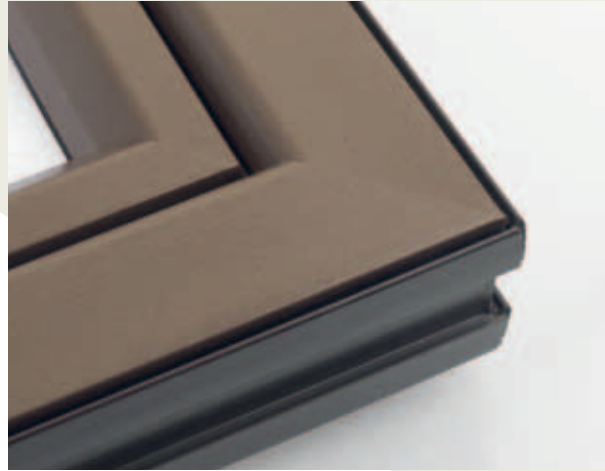
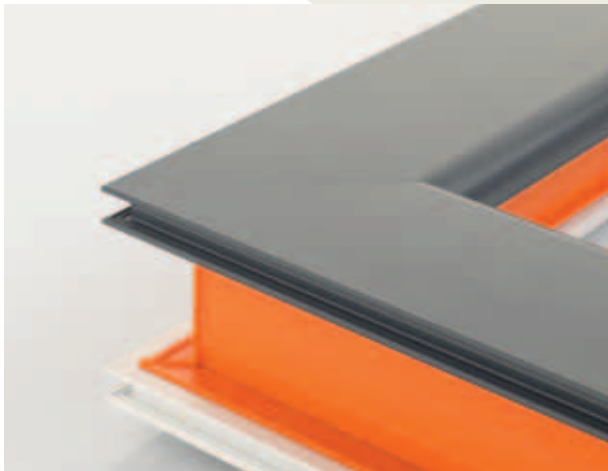
The secret of V-PERFECT is in the new SL4-FF EVO. V-PERFECT is the first and only technology in the world that, by completely eliminating the weld bead of the corner, allows for aesthetically perfect PVC windows. A new pattern of production, incomparable in the market that can be achieved only with our brand new 4-head welder 4 SL4-FF EVO: a machine that reduces space, increases the PVC potential to its maximum, opening it up to possibilities that were unthinkable until today.

THE AESTHETIC
PERFECTION OF THIS
NEW STANDARD OF
PRODUCTION FOR
PVC WINDOWS IS TOTAL

GRAF SYNERGY

Eliminating any defect of PVC frame and leaving it adapted to be coated with any type of lamination, we created indeed a unique product in terms of aesthetic outcome, performance, and quality / price ratio. The windows made with this new standard guarantee an absolutely revolutionary aesthetic impact for the PVC, which leaves nothing to be desired compared to the most prestigious materials such as wood and aluminum. Architects, designers and interior decorators will be free to enter into their designs and specifications PVC windows that besides guaranteeing great technical performance, are suitable to all kinds of residences and decorative styles. From the most modern and minimalist design, to a classic inspiration, ethnic or simply traditional.

AN AESTHETIC QUALITY
THAT FITS PERFECTLY IN
ALL ARCHITECTURAL AND
DECORATIVE PROJECTS





Possible finishing

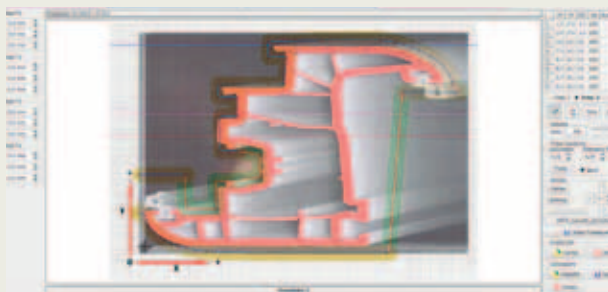
With new tech welder SL4-FF EVO it's possible to use PVC profiles coated or clad with innovative materials which reproduce the aesthetics of wood or aluminum, as well as to combine PVC with other materials*, ensuring unimaginable before results.

*Solid wood, painted or printed PVC, acrylic PVC, Fiber Glass, Aluminium cladding profiles.



A REVOLUTIONARY TECHNOLOGY THAT GIVES ENDLESS POSSIBILITIES TO CREATION AND USE OF NEW PROFILES

SL4-FF EVO was born of our technicians' intelligence and the close collaboration with the profile manufacturers that have found in GRAF SYNERGY the technological partner able to enhance their products making them easier to work with by the frame manufacturers. As this new standard has been establishing itself among manufacturers, more and more companies are approaching to this new technology to test all the potential applications directly. The creativity and the desire to try new aesthetic solutions of designers and profile manufacturers know no bounds, and SL4-FF EVO showed to be a valuable ally to the most innovative companies because of the success of new and original decorative solutions in window and door profiles.



Programming of profiles

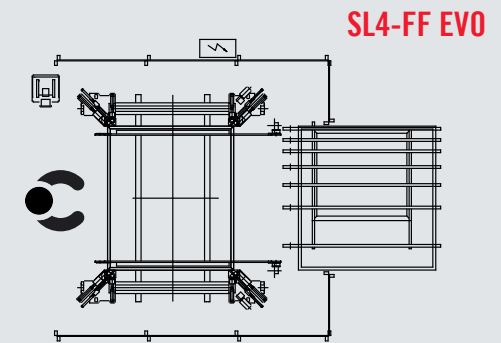
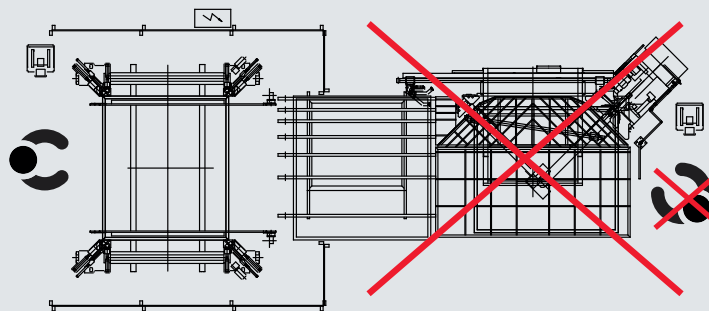
With conventional welding lines, the programming of the cleaning operation after the welding is performed using CAD drawings of profiles to be machined. Often, due to dimensional and shape tolerances of the PVC profiles, the real profile ends up having a different outcome than its theoretical design, which makes its programming inaccurate and inconstant. The new method used by SL4-FF EVO uses the scanning of the real profile with a common device (scanner or copy machine). Transferring the generated file directly to the welder's PC, it is possible to perfectly set the final machining on the real shape of the profile.

PRODUCTIVE ADVANTAGES OF THE NEW TECHNOLOGY

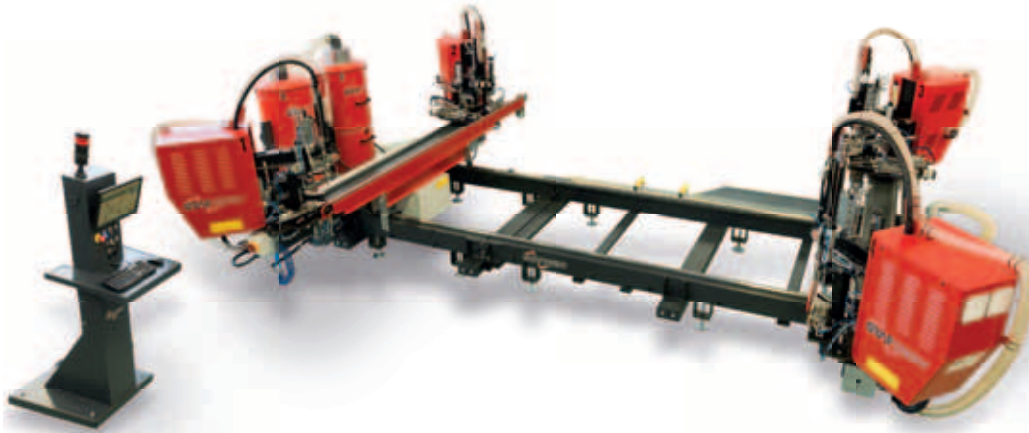
- Unlike all other technologies, SL4-FF EVO allows you to work with profiles with wood paneling, laminated profiles with aluminum or aluminum cover.
- You can compensate the tolerances of profiles, something that is not possible where the countershims are made of steel.
- With standard films, some welding machines can weld the flat surfaces, but corners and rays are anyway redone with a corner cleaner, and the corners must be retouched with manually paintbrushes. It generates an additional cost and the use of more labour.
- It is possible to work with profiles that contain unweldable products on its inside, such as fiberglass, aluminum or other components. With other traditional welders it is necessary one more procedure for that or not possible.
- The machining of the gasket seals occurs directly during the welding process, whereas with traditional machines they must be milled.
- Automatic exchange of the mold for flat welding or V welding.
- The surface area taken by the machine significantly reduces the space dedicated to the production layout, allowing the introduction of more machines that work simultaneously.
- It reduces the necessity for labour work. In an automatic line, one operator that charges the machine with the profiles is enough, and there is no longer need to carry out the finishing on the weld corners after its cycle.

Reduced spaces from 3 to 1 machine

The new SL4FF-EVO doesn't need a corner cleaner and automatic turning table. Conventional welding lines take place from a minimum of 85 square meters up to 120 square meters and in some cases even more. New SL4FF-EVO 4 head welder and buffer cooling table needs 46 square meters only.

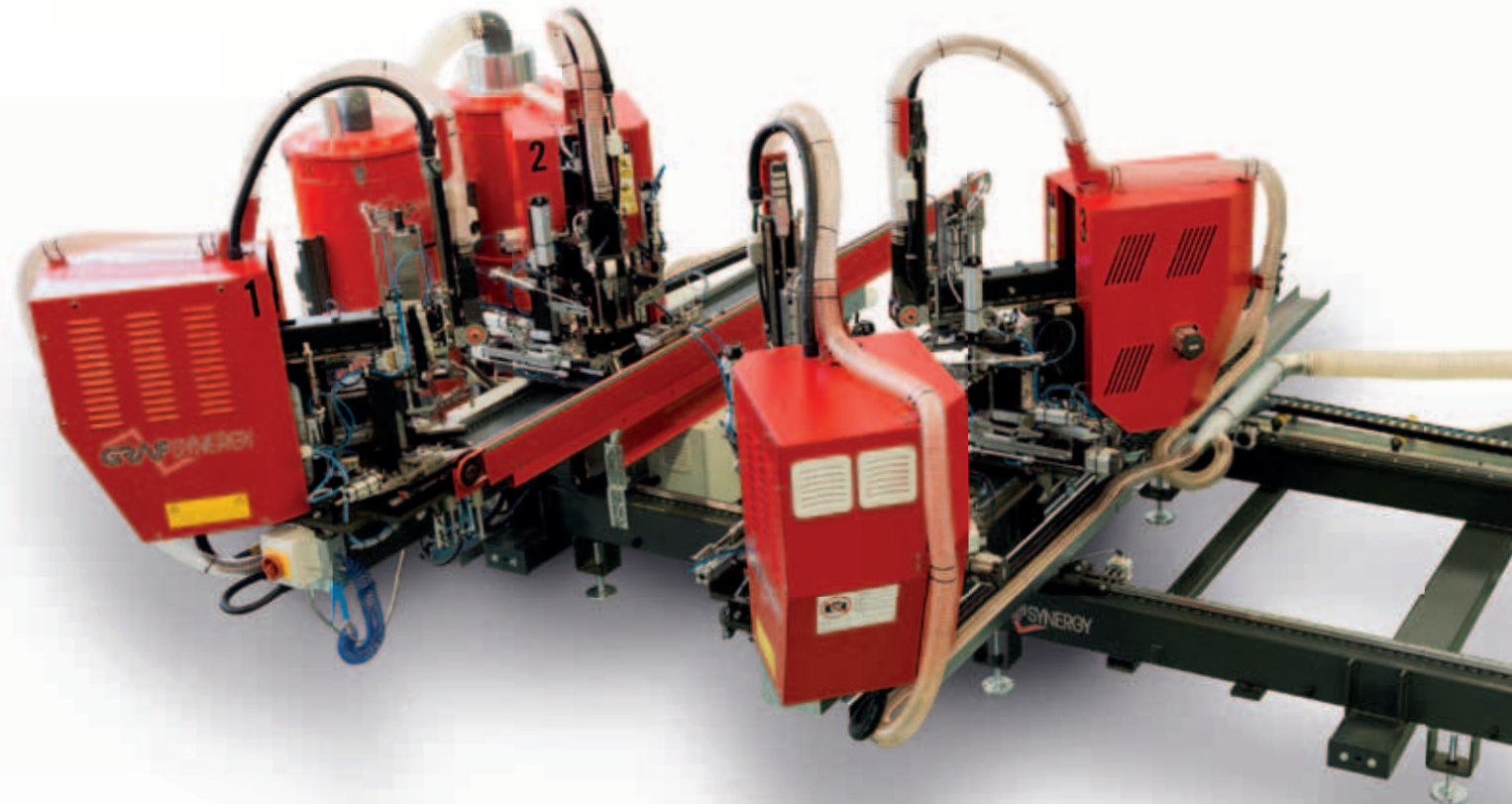


SL4-FF EVO



Temperature change	Integrated	
Minimum measure	Standard Optional	370x400 on profiles with width 70mm 300x300 on profiles with width 70mm
Maximum measure	Standard Optional	3200x2800 up to 6000x5000
Height	Standard Optional	minimum 55mm - maximum 130mm minimum 55mm - maximum 185mm
Antirotation system sash	Integrated	
Shape change system Flat or "V"	Integrated	
Barcode reader	Integrated	
Profile unloading belts	Integrated	
Teleservice system	Integrated	with camera and headphones

Length	5250 mm
Width	2200 mm
Height	1650 mm
Weight	2800 Kg.
	400v
	12 kW
	180 NI/min. 6,5 bar



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