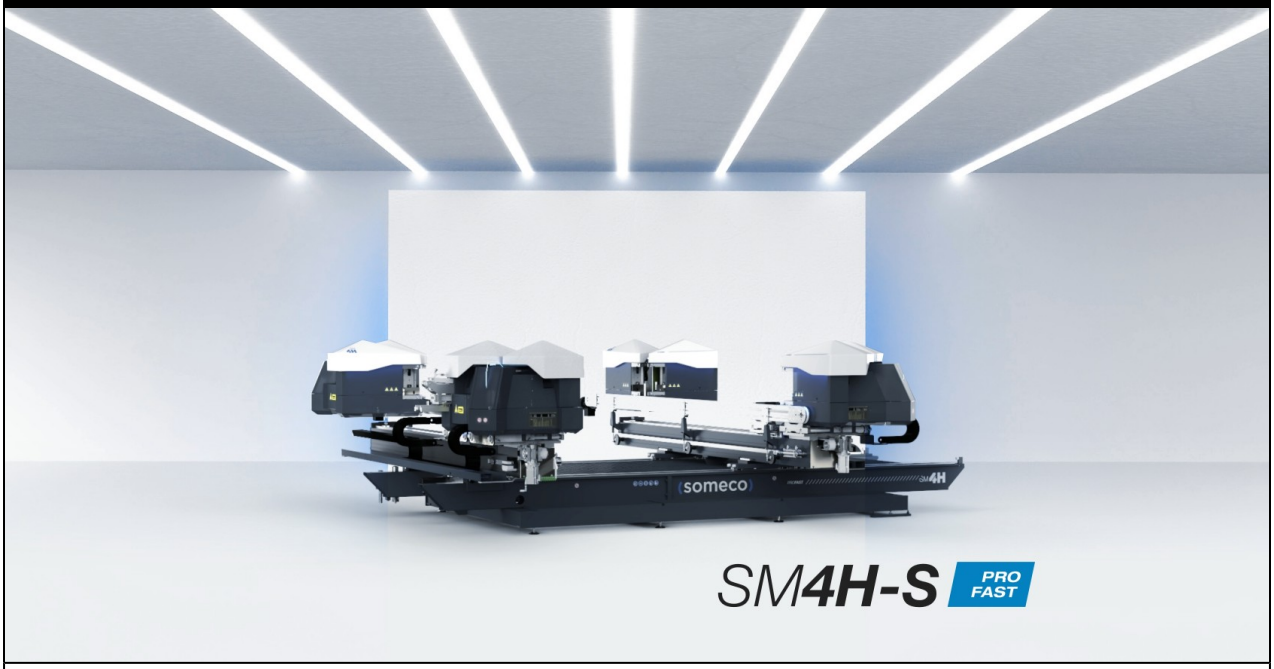
SM 4H-S PROFAST FIRST EDITION

CNC WELDING MACHINES



SM 4H-S PROFAST is a CNC horizontal welding machine designed for welding PVC profiles. Available in two different sizes, it enables the production of frames by simultaneously welding all four 90° corners. It can perform welds in the traditional mode, producing welding beads that are mechanically removed in a subsequent phase of the production process, or in Seamless mode, which involves a simple profile preparation step that allows for beadless welds on the visible surfaces of the frame. The frame welding process is carried out in symmetrical (bidirectional) mode, with simultaneous movement of the slides along both longitudinal and transverse axes. This profile alignment method improves the polymerization of the molten material by completely eliminating transverse micro-slippages. The PROFAST version is specifically designed to optimize Seamless welding technology by integrating knives into the welding units to control the quality of the finish. This solution allows the use of simpler counterblocks, reducing costs and testing time. The Seamless welding technology also significantly reduces and simplifies the subsequent processing cycle, delivering major benefits in terms of productivity and final quality. The extreme precision guaranteed by symmetrical welding, in addition to ensuring the highest quality in seamless mode, allows the most complex welds to be performed, including the welding of hybrid profiles or profiles machined in wood-effect mode. In traditional mode, the generated welding bead is precisely controlled to ensure optimal aesthetic quality after removal. The bead thickness can be predefined according to the finishing specifications required by the subsequent cleaning process. Optionally, an electronically controlled adjustment system is available, allowing bead size management within a range from a minimum of 0.2 mm to a maximum of 2 mm. The machine is configured for manual loading and automatic unloading. Designed to best meet the principles of ergonomics and safety, the light indicators and movements of the welding heads make the interaction between the operator and the machine simple and intuitive: both during the profile loading phase and in the subsequent heating and welding phases, the lights on the heads indicate the machine's operating status; when required, the pair of heads approaches the operator to allow correct and easy positioning of the piece. All the cycle variables (times, speeds, etc.) are programmable and can

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be set automatically in the machine.

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WORK AREA

Maximum dimensions of the frame with automatic unload (X-Z mm)	3.510 x 2.660
Minimum dimensions of the frame with automatic unload (X-Z mm)	340 x 420
Minimum dimensions of the frame with longitudinal frame loading device and door sill assembling (X-Z mm)	440 x 420
Maximum profile height (mm)	200
Minimum profile height (mm)	38
Maximum width of the profile (mm) - Frame	145 (*)
Maximum width of the profile (mm) - Door	145 (*)

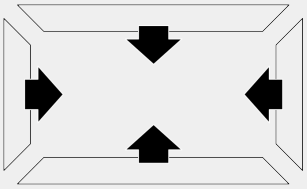
POSITIONING SPEED

X AXIS (m/min)	50
Z AXIS (m/min)	40

MODES OF OPERATION

Symmetrical bidirectional welding in U and V	●

symmetrical (bidirectional) welding mode



Standard PVC profile welding	●
ALU/PVC profile welding	●
Seamless welding bead size (mm)	0
Traditional welding bead size (mm)	2
Adjustable machining allowance	●
Default machining allowance (mm)	3

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SAFETY DEVICES AND PROTECTIONS

Photoelectric barrier system to protect access to work zone	●
Perimetric welding machine guard on three sides	●
Heads guard and indicator lamps	●

OVERALL DIMENSIONS AND POWER

Size, machine only (width x length x height) (mm)	4.200 x 5.000 x 1.400
Overall dimensions, machine with safety fences + cooling bench (width x length x height) (mm)	7.600 x 8.500 x 1.800

Included ● Available ○

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