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# SVL 4H

WELDING & CLEANING LINES




The SVL 4H corner welding and cleaning line for PVC profiles consists of 5 main units: the horizontal welding machine SM 4H (in all its models) including the frame unloading unit, the cooling bench, the turntable, the 2- or 4-axis corner cleaning machine (EV 2A or 4A) and lastly the in-line outfeed table. Due to the provision for double feed on both sides (right and left) of all units making up SVL 4H, the flow of operations on the entire line can be selected, from left to right or vice versa, during the configuration phase. Depending on the welding machine installed in the line, SVL 4H can handle frames of various sizes, in a fully automated mode. The welding machine SM 4H can be fitted with counterblocks (optional) for standard and Seamless welding and when the line is suitably configured, it can handle all types of standard profiles including acrylic and coated profiles.

**Voilàp S.p.A.**
Via Archimede, 10
41019 - Limidi di Soliera (MO)
ITALY

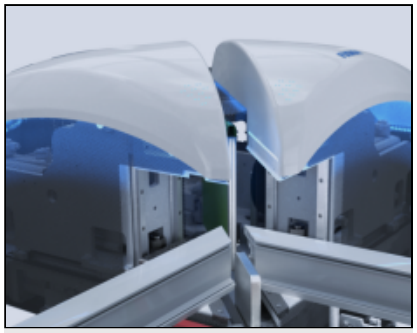
Tel 059 895411
Fax: 059 859404
P.IVA e C.F. 02057270361
info@somecopvc.com
www.somecopvc.com

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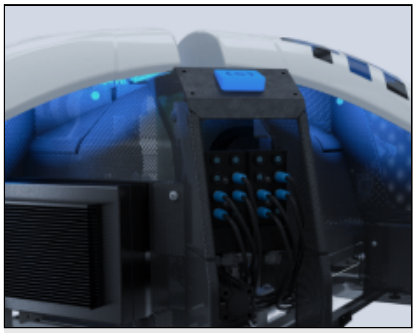

## Built-in operator interface

SVL 4H/4A is extremely simple to use and highly flexible: the operation of the system can in any case be controlled by a single operator (from the loading station of the SM 4H welding machine), while all information about the machining process (data about the frames and the types of profiles machined) can be displayed on any interface connected to the line.



## Automatic welding bead control

SM 4H welding machine can also provide software automatic control of the welding bead size (from 0.2 to 2mm) thanks to a digital adjustment system controlling the welding cycle. SM 4H, in combination with counterblocks using Seamless technology, allows obtaining a perfect seamless welding. Precision is ensured thanks to the handling of PVC profiles with controlled axes.



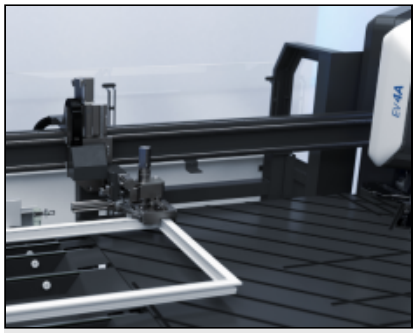
## Field bus connection system

Design of interconnection between the central unit and the welding heads is based on the use of a field bus. Such solution allows remote control and supervision directly on the operating units. Thus it is possible to implement wiring which is both very simple and accessible to ensure quick and ready accessibility for maintenance




## Internal reference and external clamping

The precision guaranteed by Someco in the PVC corner cleaning machines is obtained through the use of an N/C stop that allows the frame to be positioned in the machine by making reference to the internal corner of the frame. This ensures accurate centering and no limitations due to any difference in width of the profiles making up the frame.



## Frame handling system

The objective of concentrating all the frame handling functions in a device that ensures highly dynamic positioning phases and accurate positioning of the product in all phases of the work cycle has been achieved thanks to the 4- axis manipulator. Such system is independent from the actual corner cleaning machine where the tools for the cleaning cycle are located.

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## **SVL 4H** / WELDING & CLEANING LINES

### LINE CHARACTERISTICS

| | |
|---|---|
| Welding machine: | SM 4H |
| Frame unload unit | ● |
| Cooling bench | ● |
| Serial connection between welding machine and corner cleaning machine | ● |
| Turning table | ● |
| Corner cleaning machine (according to model) | EV 2A ; EV 4A |
| Outfeed table | ● |

### OVERALL DIMENSIONS AND POWER

| | |
|---|---|
| Overall dimensions (width x length x height) (mm) | 7.900 x 16.200 x 2.250 |
| Weight (kg) | 7.050 |
| Average power consumption (kW), EV 2A version | 25 |
| Average power consumption (kW), EV 4A version | 27 |
| Air consumption (Nl/min) | 200 |

### AUTOMATIC LINE WORKING AREA

| | |
|---|---|
| Maximum dimensions of the frame - Automatic version (corner cleaning and welding): external measurement (mm) | 2.500 x 2.500 (2,8 kg/m) |
| Maximum dimensions of the frame - Semi-automatic version (welding only): external measurement (mm) | 3.500 x 2.700 |
| Maximum dimensions of the frame - Semi-automatic version (only corner cleaning) with manual frame rotation: external measurement (mm) | 3.500 x 2.700 |
| Minimum dimensions of the frame - Automatic version (corner cleaning and welding) for frames with cross-section of max. 70 mm (workpiece clamping side): external measurement (mm) | 400 x 350 |
| Minimum dimensions of the frame - Semi-automatic version (corner cleaning only) with manual frame rotation: internal measurement mm) | 210 x 210 |

### PROFILE DIMENSIONS

| | |
|---|---|
| Maximum height of the profile (mm) | 200 |
| Minimum height of the profile (mm) | 35 |
| Maximum width of the profile (mm) | 150 |

### SAFETY DEVICES AND PROTECTIONS

| | |
|---|---|
| Photoelectric barrier system to protect access to welding zone | ● |
| Line perimeter enclosure guard | ● |

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## SM 4H, POSITIONING SPEED

| | |
|---|---|
| X AXIS (m/min) | 50 |
| Y AXIS (m/min) | 40 |

## SM 4H, FUNCTIONS

| | |
|---|---|
| Compatible with Seamless counterblocks | ● |
| Plate temperature control (°C) | 200 ÷ 300 |
| Bead temperature control: up to 70°C | ○ |
| Welding bead standard dimensions (mm) | 2 |
| Welding bead optional dimensions (mm) | 0,2 ÷ 2 |
| Unit for unloading frame from welding machine | ● |
| Machining allowance parameter (mm) | 3 |

## EV, POSITIONING SPEED

| | |
|---|---|
| Y AXIS (m/min) | 100 |
| Z AXIS (m/min) | 40 |
| V AXIS (m/min) (only EV 4A) | 100 |
| W AXIS (m/min) (only EV 4A) | 40 |

## MANIPULATOR, POSITIONING SPEED

| | |
|---|---|
| X AXIS (m/min) (linear movement of the gripper) | 170 |
| Q AXIS (m/min) (vertical movement of the gripper) | 9 |
| H AXIS (m/min) (cross movement of the gripper) | 9 |
| C AXIS (°/min) (rotary movement 0 – 90° of the gripper) | 3.000 |

## OUTFEED TABLE, POSITIONING SPEED

| | |
|---|---|
| U AXIS (m/min) | 40 |

## EV, FUNCTIONS

| | |
|---|---|
| Positioning of the frame: automatic with turntable | ● |
| Milling of different profiles | ○ |
| Drilling for hinges | ○ |

Included ● Available ○

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