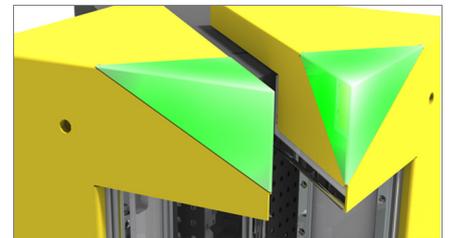


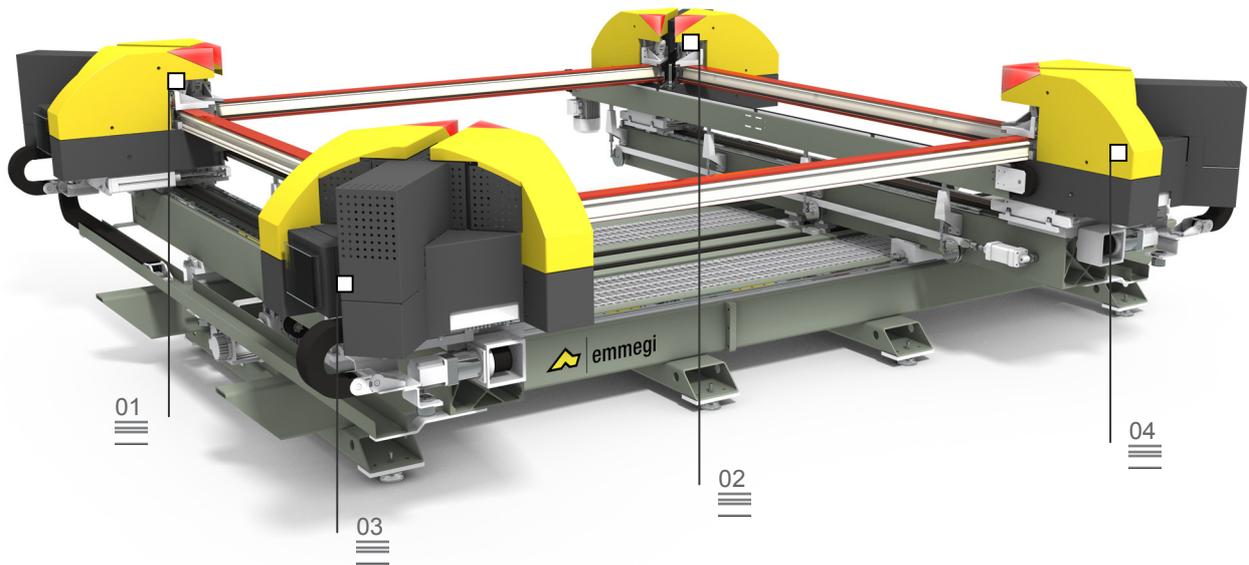
**Digital control system 01**



**Ergonomic design 02**

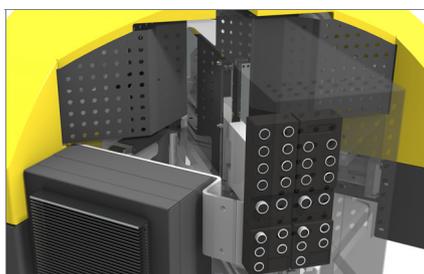
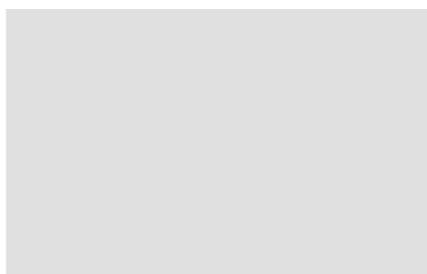
## Fusion 4H

Welding machine

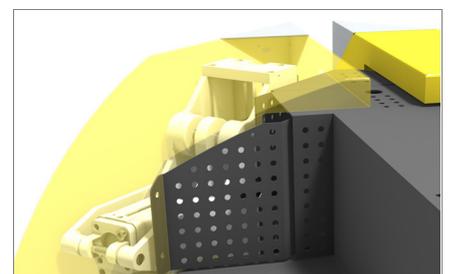


FUSION 4H is a fully digital horizontal CNC welding machining machine for welding PVC profiles. Coming in 2 sizes, the 4-head model allows fabricating frames through simultaneous welding of the 90° corners or welding of the selected items. FUSION 4H, which has manual loading and unloading, also has provision for automatic unloading of the finished product. The machine is designed to satisfy ergonomic and safety principles: the indicator lamps and welding head movements make for user-friendly dialog between operator and machine, whether in the profile loading phase or during the subsequent heating and welding phases. Such indicator lamps on the welding heads clearly show the profile to be positioned, with approach (when required) of the pair of welding heads to the operator, thereby allowing correct and easy workpiece positioning. All cycle variables (times, speed, etc.) are programmable and can be preset in the machine automatically. Of the special (patented) features of the FUSION 4H machines, outstanding is the provision for controlling the welding bead size, which can be set by program within a range from a minimum of 0.2 mm up to a maximum of 2 mm.

**Field bus connection system 03**



**Automatic welding bead control 04**



# Fusion 4H

## Welding machine

### 01

#### Digital control system

The innovative solution adopted by Emmegi in its PVC welding machines is based on a digital control system which guarantees "handling" of the extruded profiles by programmable speed cycles variable via the control system. Such system also incorporates the capability of determining and monitoring the intermediate and final positions. Thus the welding cycle caters for all types of flexibility thanks to the programming of different cycles for different extruded profiles or for other final objectives (welding bead size). As it is a "controlled and absolute" system, it also ensures synchronism between movements throughout the various phases of the cycle and in relation to the variation in mechanical or environmental conditions of the devices.

### 02

#### Ergonomic design

Special care has been taken over the ergonomic aspects of the machine: the innovative look of the machine embodies the objectives regarding protection, accessibility and "human-machine dialog". The action of the welding heads during the cycle guides and indicates the operator through the sequence of the various phases, in order to ensure both user-friendly and practical operation.

### 03

#### Field bus connection system

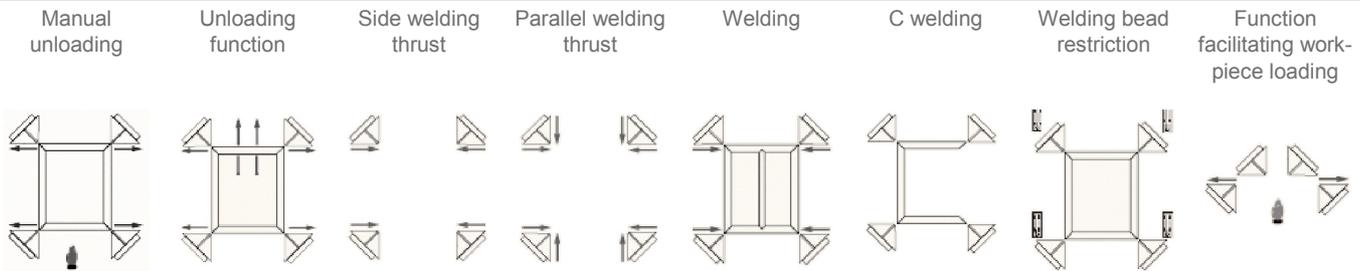
Design of interconnection between the central unit and the welding heads is based on the use of a field bus. Such solution allows remote control and supervision directly on the operating units. Thus it is possible to implement wiring which is both very simple and accessible to ensure quick and ready accessibility for maintenance thanks to an efficient network of communication between the various mechanical, pneumatic and electronic components of the machine.

### 04

#### Automatic welding bead control

The FUSION welding machine allows automatic control, by a program, of the welding bead size (from 0.2 to 2 mm) thanks to a digital control system governing the welding cycle. The digital system ensures reaching the final size for both the frame and the welding bead.

## Welding sequence



DIMENSIONS	
Max. frame size (mm)	3.500 x 2.500 2.500 x 2.500 2.500 x 1.600
Min. frame size	320 x 350
Min. frame size with automatic unloading (mm)	400 x 350
POSITIONING SPEED	
X AXIS (m/min)	80
Y AXIS(m/min)	40
WELDING RANGE	
Profile size (mm)	H max 200 H min 50 B max 150
Automatic frame unloading	
Welding bead size (mm)	2
Welding bead variable electronically (mm)	0,2 ~ 2 (optional)
MACHINE FUNCTIONS	
Temperature control, heating plate (°C)	200 ~ 300
Temperature control, welding bead restrictors (°C)	Up to 70 (optional)
SAFETY DEVICES AND GUARDS	
Perimeter guard, welding machine	
Perimeter guard, welding machine with in-line unloading	
Welding head guard and indicator lamp	
CONTROL UNIT	
Ventilated electrical cabinet	
Pneumatic control panel	
CNC-PC with Intel® processor	
15" LCD-TFT graphic colour monitor	
Keyboard	
Compact Flash Card 1 Gbyte	
USB ports	1
RJ45 network card	