



Trench Mesh Welding Plants from coil or pre-cut lengths

Step Weld **S** Step Weld **H**

*Trench Mesh Welding Plants
from coil or pre-cut lengths*



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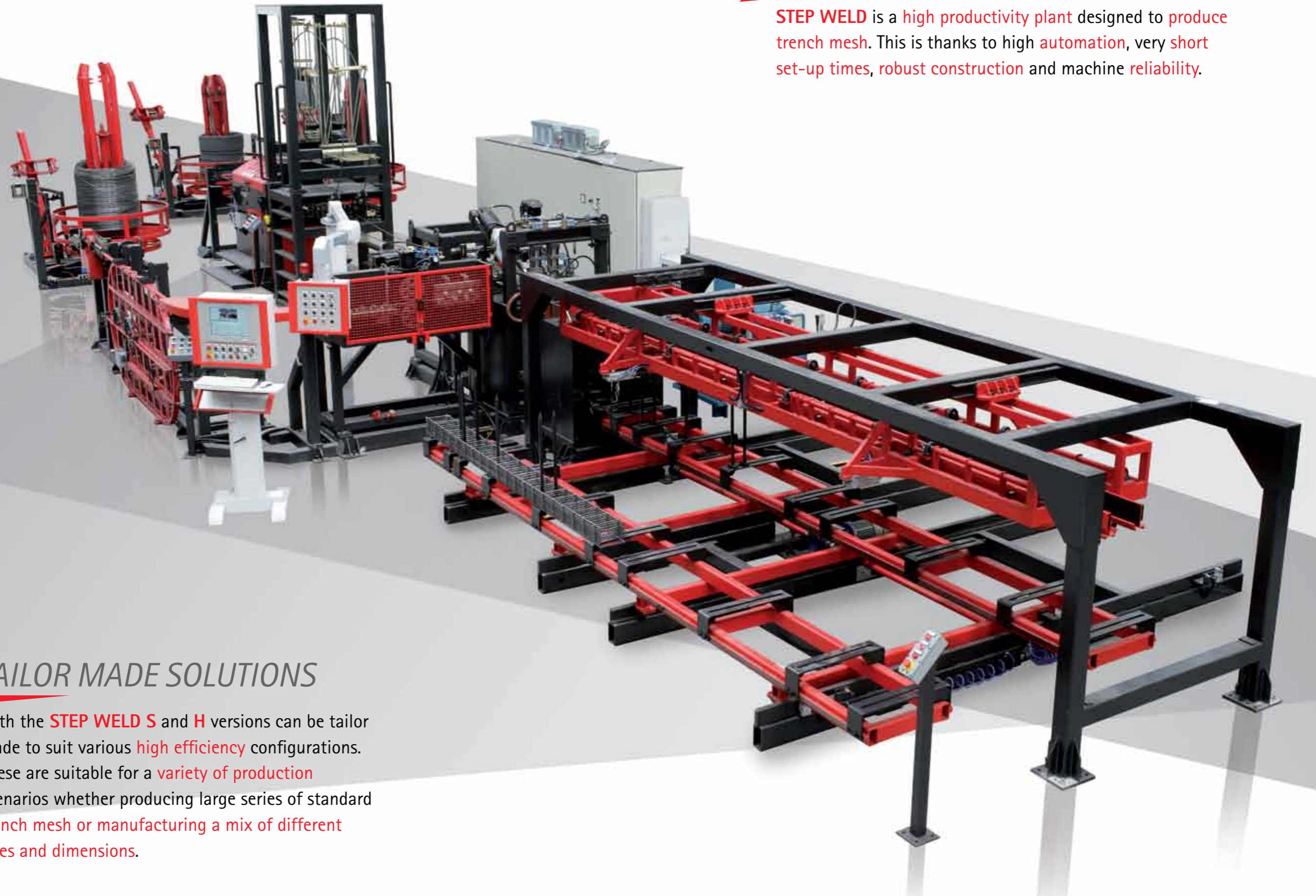
Step Weld S Step Weld H

SIMPLY PRODUCTIVE

STEP WELD is a high productivity plant designed to produce trench mesh. This is thanks to high automation, very short set-up times, robust construction and machine reliability.

TAILOR MADE SOLUTIONS

Both the **STEP WELD S** and **H** versions can be tailor made to suit various high efficiency configurations. These are suitable for a variety of production scenarios whether producing large series of standard trench mesh or manufacturing a mix of different sizes and dimensions.



Step Weld S

Step Weld H

TOP QUALITY

STEP WELD Series are easy to operate to obtain **top quality products**. The design incorporates a number of **exclusive devices** addressing the **reduction of set-up and fine tuning times** and therefore to a **dramatic reduction of production waste**. The machine's development, incorporating the newest generation of machine control systems, allows the **STEP WELD** to reach **unequaled productivity rates**.

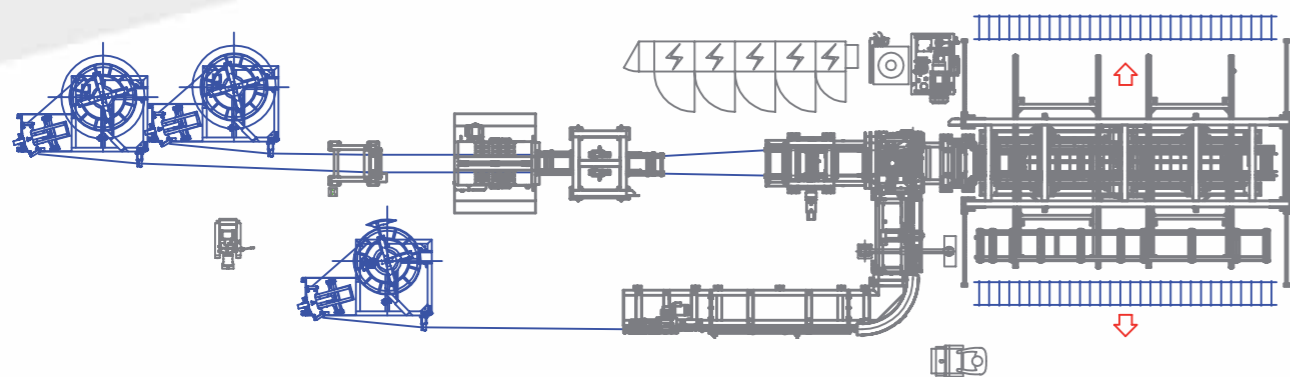


HIGH PRODUCTIVITY (COIL-COIL)

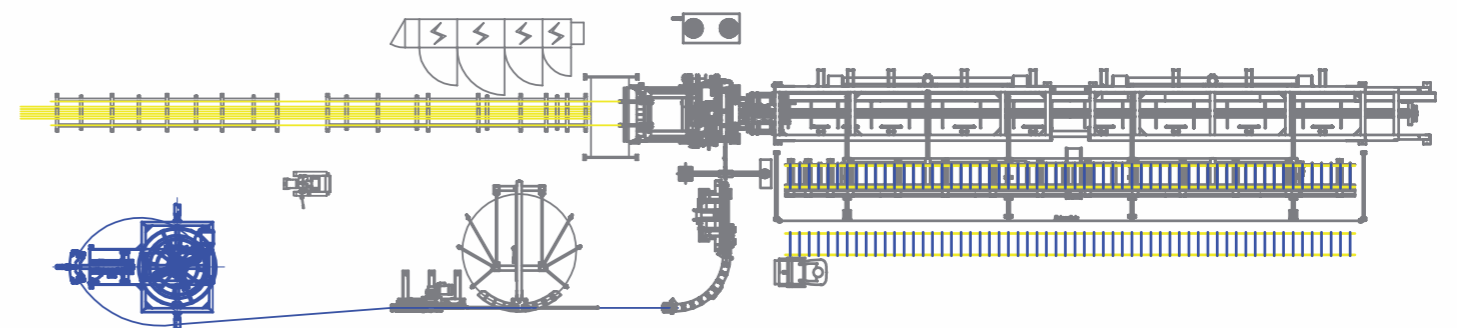
STEP WELD S is an automatic system designed to process coil both for **longitudinal and cross wires**.

PRODUCTIVE FLEXIBILITY (BAR-COIL)

The **STEP WELD H** is equipped with a pre-feeding system designed for processing of **pre-cut bars for longitudinal wires and coil for cross wires**. This combination provides a high degree of **production versatility** since the plant has the capability of processing and welding bars up to 20 mm.



STEP WELD S



STEP WELD H

Unique automation solutions for unequalled productivity

CONSTANT DE-COILING

To achieve the **best trench mesh quality**, reducing the strain and stress during decoiling is paramount. The **loop** and tension control devices for longitudinal wire (**STEP WELD S**) transversal wire (**STEPWELD S** and **H**) are configured to **allow optimum management of coil fed material**.

STRAIGHTENING UNDER CONTROL

The straightening of the longitudinal wires is one the most critical aspects in a trench mesh plant. The **STEP WELD S** is equipped with a pre-decoiling and straightening group consisting of **two rotors operating at variable speeds**. Furthermore, if required, they can **independently rotate in opposite directions** in order to consistently achieve perfect straightening of the longitudinal wires therefore achieving flat and straight trench mesh.

The **cross wire (STEP WELD S and H)** are fed via a motorized system and then straightened by **two groups of rollers placed in opposite planes**.



BAR FEEDING

Longitudinal bars (**STEP WELD H**), are placed on a storage table (optional) and are **manually inserted into two pincers** which then automatically feed the welding machine.



QUICK CUT



A strong hydraulic shear (**STEP WELD S**) cuts the trench mesh to the required size without slowing down the production cycle.

WELDING UNDER CONTROL

The use of latest welding technology (controlled current profiles) overcomes variations in the mechanical characteristics of the steel material, whilst assuring reduced power consumption.

This exclusive control system enables utmost flexibility in the welding cycle, according to the customer's specific requirements. More than 100 welding programs are available.



AUTOMATIC COLLECTION

The finished panels can be collected by means of various systems according to production requirements.

The automatic stacking-machine (optional) stacks the trench mesh according to the requirements of production, stocking and delivery.

The complete pack is then transferred via a mobile collecting rack consisting of one or two compartments which can be used for tying and evacuation of the finished product away from the production line.



WORLD SYSTEM: TOTAL CONTROL



- **Operator's panel for MEP Industrial P.C., consisting of:**
 - LCD screen for the visualization of all information in a "user-friendly" graphic mode.
 - Low absorption compact micro-controller ("embedded").
 - Input/output electronic boards equipped with prevention systems against short-circuits and axle control.
- **The software, expressly designed by MEP, allows:**
 - Data input with graphic visualization of programmed and pre-memorized mesh.
 - Memorization of 200 different trench meshes.
 - Check-up of all machine parameters with possibility of selecting two welding programs for each weld.
 - Memorization and filing of data related to daily working cycles and generation of daily production statistics (number of welding strokes and metres produced).
 - "Active Diagnostics" system for a constant efficiency check-up for all devices of the system.
 - Remote assistance via Ethernet (optional).
 - USB Port for data transfer.
 - RJ45 Ethernet standard port (LAN port) for direct link to company's network.



BUNDLE-HOLDER STORE (STEP WELD H)



- The **store** allows the storage of longitudinal bundles in 2 or more compartments. (OPTIONAL)

QUALITY DE-COILING



- Model GBO1 pay-off station is equipped with a braking system that is controlled by the control panel to suit the production cycle.

MOBILE WELDING BUTT



- It allows to weld the ends of two coils in order to reduce wire insertion times. (OPTIONAL)

TECHNICAL AND PRODUCTION CHARACTERISTICS

	STEP WELD S	STEP WELD H
WORKABLE WIRE DIAMETER		
longitudinal wire diameters (other diameters on request) LW	from Ø 4 to Ø 12 mm from 0.159" to 0.472 "	from Ø 6 to Ø 20 mm from 0.239" to 0.786 "
crosswire diameters (other diameters on request) CW	from Ø 4 to Ø 8 mm from 0.159" to 0.315 "	from Ø 4 to Ø 12 mm from 0.159" to 0.472 "
fy = 600 N/mm ² - ft = 650 N/mm ² (other loads on request)		
TRENCH MESH PRODUCTION		
max number of welding points *	110 max/stroke	80 max/stroke
trench mesh width	from 100 to 500 mm	from 120 to 500 mm
	from 4" to 20"	from 5" to 20"
trench mesh length (other sizes on request)	500 ÷ 6000 mm	1500 ÷ 6000 mm
	20" to 240"	60" to 240"
LONGITUDINAL PITCH LW		
distance between longitudinal wires	from 80 to 480 mm	from 100 to 480 mm
	from 3" to 19 "	from 4" to 19 "
CROSSWISE PITCH CW		
minimum distance between cross wires	50 mm for crosswise wire diameter < 8 mm 100 mm for crosswise wire diameter > 8 mm	50 mm for crosswise wire diameter < 8 mm 100 mm for crosswise wire diameter > 8 mm
	2" for crosswise wire diameter < 0.315" 4" for crosswise wire diameter > 0.315"	2" for crosswise wire diameter < 0.315" 4" for crosswise wire diameter > 0.315"

THE SYSTEM REQUIRES AN AIR-COMPRESSOR AND A WATER COOLING SYSTEM.

fy: max. unit yield point - ft: max. breaking point

* the max. number of strokes can vary according to the crosswire pitch and the wire diameters.

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