Stirrup bender and automatic shaping from coil

Planet F13

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MEP

the history of innovation

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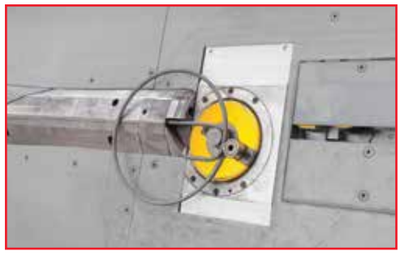
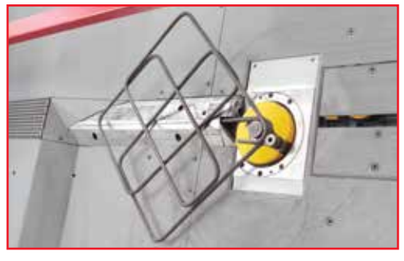
Planet **F13**

VERSATILITY AND INNOVATION

PLANET F13 is the sum of all best technology solutions developed in the field of coil processing, straightening and shaping.
This machine reached the maximum level of flexibility, productivity and product quality.





THE EFFICIENCY THAT REDUCES COSTS

The high productivity is guaranteed in every condition, regardless if there is a requirement for production of small or large stirrups, as well as for straightened bars and shaped with bends at one or both ends. The flexibility in different productions, makes the **PLANET F13** capable to reduce the number of required equipment, as well as in the number of machinery operators, therefore reducing drastically the production cost per unit of weight.

AFS2 Advanced Feeding System anti-twist and straightening system

The AFS2 system guarantees perfect straightening with flat stirrups.

QUALITY AND PRODUCTIVITY

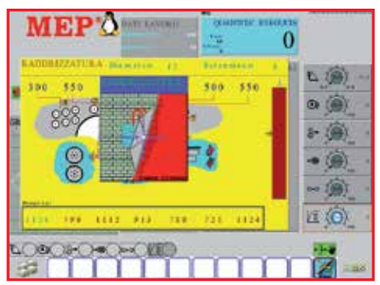
The **PLANET F13** is a user friendly automatic stirrup bender that provides superior quality of finished products.
The combined action of an exclusive series of patented devices minimizes the time for setup adjustments and drastically reduces the amount of discarded products. A drive and control system, based on the latest generation technology, grants to reach unparalleled levels of productivity per hour.

The twisting of the wire during the pulling phase creates open stirrups.

patented

CONTROLLED STRAIGHTENING

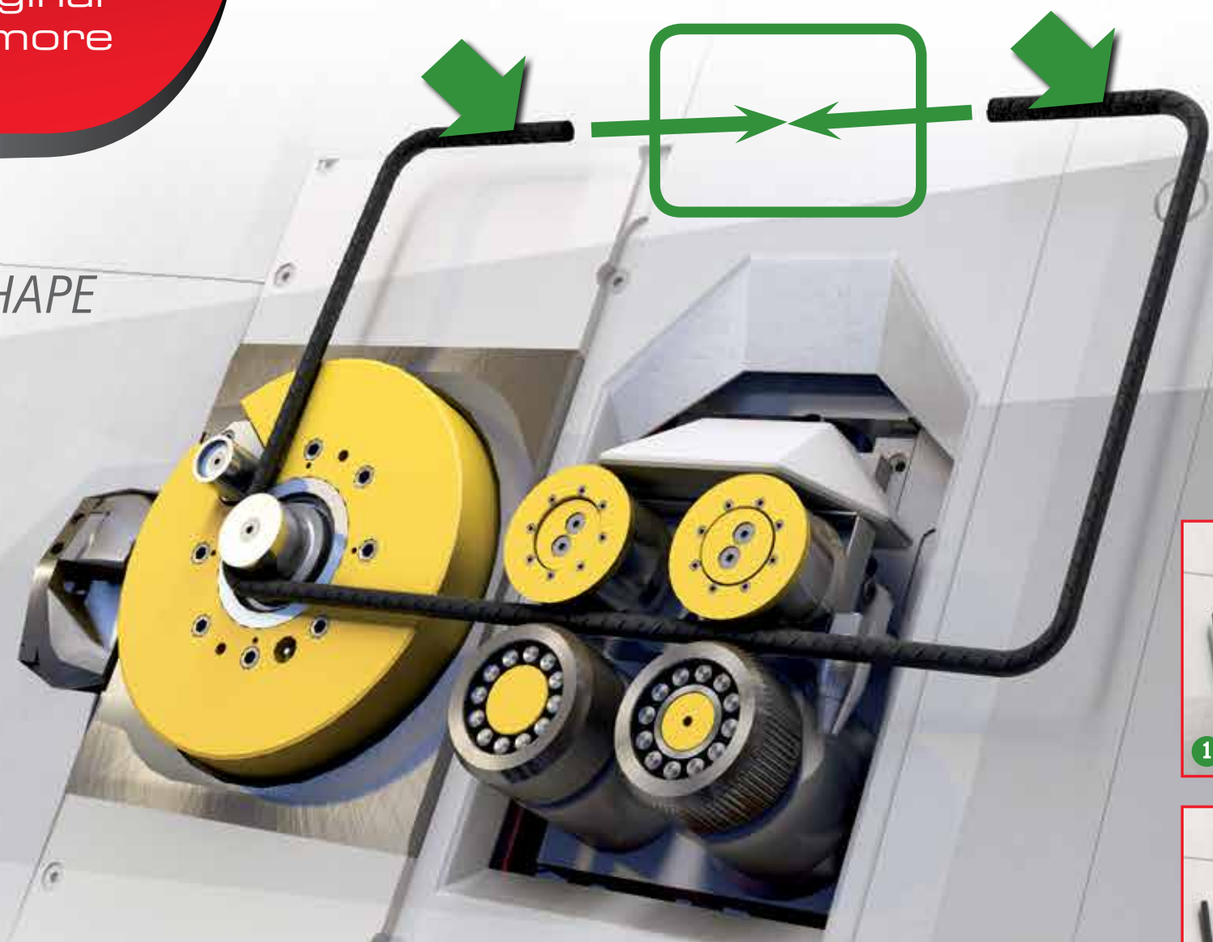
The combined action between the AFS2 and the on-screen electronic pointer provides a real and full automated automatic control of all straightening functions.



AFS2 : AN INNOVATIVE SOLUTION FOR COIL

AFS2 (advance feeding system 2) is a straightening system able to control the effect of wire rotation on its own axis, that has origin during the pulling phase. Therefore, closed stirrups and straight bars can always be produced.
The exclusive design of the innovative straightening group AFS2 prominently increase the meeting point between infeed rollers and the two wires, so the correct traction is guaranteed.
The coil ribs deformity are reduced at the least without modify the mechanical characteristics of wires, typical in traditional straightening systems.

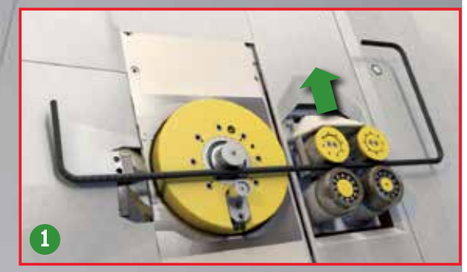
Secondary feeding unit: the original solution from 1992 in use on more than 2000 machines

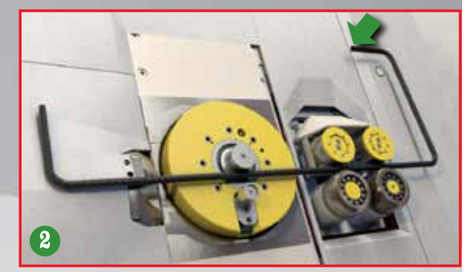


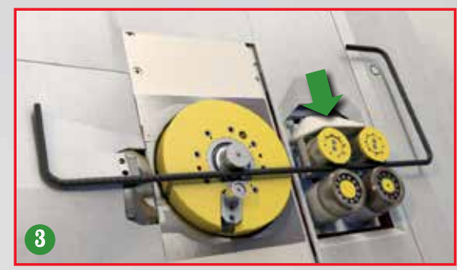
A DOUBLE TRACTION FOR ANY SHAPE

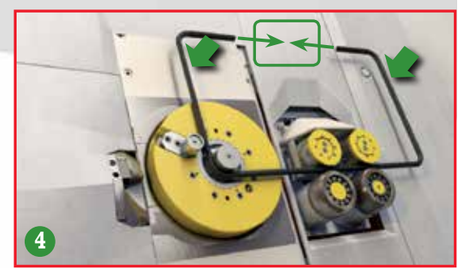
The Secondary feeding unit lets you use a patented method that allow to produce shapes bent on both sides using one bending unit instead of two.

The working cycle is considerably simplified and sped up, having eliminated all the time related to transfer the wires at the second bending unit and those required for the change of two bending pins related bending angles calibrations.









NO RESTRICTIONS ON SHAPES AND DIMENSIONS

This patented method provides the simultaneous exit of the secondary feeding unit (1) and the bending unit (2) among the working plane, avoiding the collision between the shape and the cutting unit (1 + 2) during the pulling back progress.

This solution enables the production of shaped products of all forms and sizes using the entire working surface.

GRAVITY FOR QUALITY

Exploiting the effect of gravity during the bending phase we obtain shapes always coplanar.

The rollers of the secondary feeding unit open 1 and close 3 before each bend, allowing the shape "to rely" on the work surface 2 and 4 as a result of gravity.

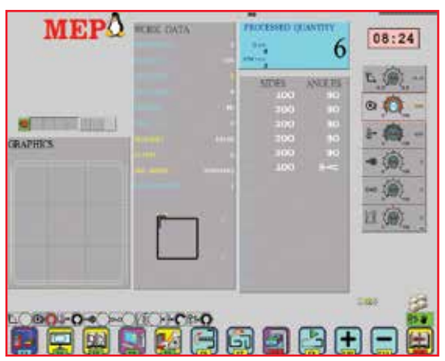
The subsequent bends will always aligned with those already executed, canceling out any residual rotation phenomenon.

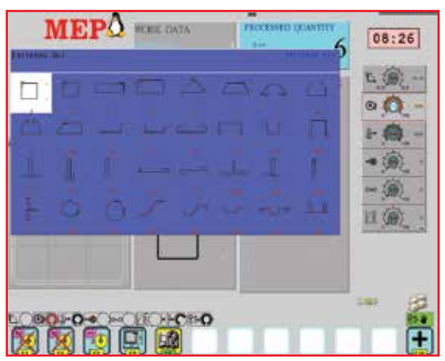
WORLD SYSTEM
total control

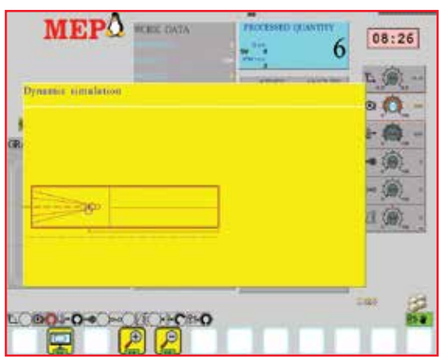
- **MEP Industrial PC "World System" operator control panel is comprised of:**
- LCD "Touch Screen" for the user friendly graphical visualization of all data.
- Compact, "embedded" microprocessor with low power consumption and a compact flash disk with no moving parts (diskless).
- Linux operating system.
- Automatic backup saving system in case of accidental power interruption for safeguarding files and memory support integrity.

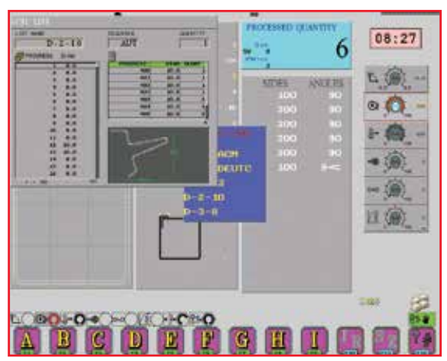
Control panel for Planet F13

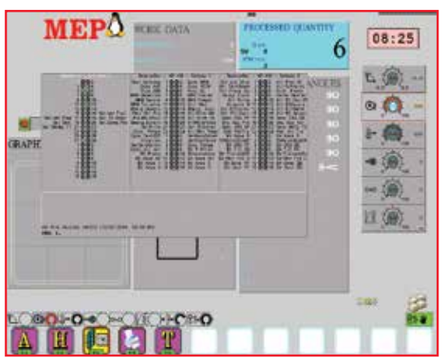
- **The custom software developed by MEP allows:**
- Data input with graphic visualization of programmed and pre-memorized shapes with feasibility checks via a "dynamic simulation".
- Control of all speed parameters in execution via a potentiometer.
- Access to the straightening correction function, without stopping the production process, through the electronic cross hair displayed on the control panel.
- Saving and archiving of data relative to work cycles and generation of daily production statistics (positions, diameters, times, weights, etc.).
- "Active diagnostic" system for a constant efficiency check of all machine devices.
- Automatic activation of the scheduled maintenance program.
- Interface compatible with optical bar code reader through RS 232 port.
- USB connection port
- Possible to connect to Company Network through RJ45 Ethernet port (LAN port) or RS 232 port.
- VPN Connection-ready for remote assistance via Internet (through Company Network).











SAFETY AND ERGONOMIC

PLANET F13 allows to get coplanar shapes and stirrups continuously closed, eliminating the dangerous manual operator intervention during the bending phase.

THE FASTEST BENDING PINS CHANGE

- **PLANET F13** is equipped with a series of monobloc bending pins at quick fixation, which allow a fast production restart at each wire change diameter.

QUALITY DECOILING

- **Decoilers** equipped with an automatic braking system monitored by the control panel according to the working cycle.
  Decoilers, equipped with motorization, with free-wheel system, controlled from the control panel, according to the working cycle that help the development of the wire, during the shaping phases. (OPTIONAL)

- **Spacer** for the use of spooled or rewound coils. (OPTIONAL)

ACCESSORIES

- Winch equipped with clamping device for the wire end to be pulled. (OPTIONAL)

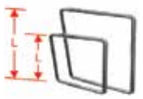
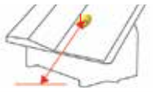
- The cutting unit utilize universal mobile blade suitable for any wire diameter and provided with four cutting edges. Fixed blade guide dedicated by diameter.

- Bar code. (OPTIONAL)

- Supporting and collecting unit for the production of straight bars and bars bent on one or both ends. (OPTIONAL)

- Photocells for "stop&go" purpose with consequent reinstatement of production disrupt. (OPTIONAL)

TECHNICAL AND PRODUCTION CHARACTERISTICS

	**SINGLE STRAND PROCESSING WIRE DIAMETER**	**PLANET F13**
	cold drawn, hot rolled, smooth or ribbed wire	Ø 5 - Ø 13 mm #2 - #4
	fy = 600 N/mm² - ft = 700 N/mm² (other loads upon request)	
	**DOUBLE STRAND PROCESSING WIRE DIAMETER**	
	cold drawn, hot rolled, smooth or ribbed wire	Ø 5* - Ø 10 mm #2 - #3
	fy = 600 N/mm² - ft = 700 N/mm² (other loads upon request)	
	**SQUARE STIRRUP DIMENSIONS**	
	minimum with Ø 6 mm wire (optional bending pin)	50 mm x 50 mm - 2" x 2"
	maximum if clockwise	900 mm x 900 mm - 2'-95" x 2'-95"
	maximum if counterclockwise (with eventual optional cover extension)	1000 mm x 1000 mm - 3'-3" x 3'-3"
	**LENGTH OF STRAIGHTENED AND CUT-TO-LENGTH BAR**	
	minimum	5 mm - 3/16"
	maximum (if equipped with optional supporting guide; other sizes upon request)	12000 mm - 39-4"
	**CENTRE FORMING TOOLS DIAMETER**	
	minimum	12 mm - 1/2"
	maximum (other sizes upon request)	60 mm - 2 3/8"
	**MAXIMUM DISTANCE BETWEEN CENTRAL BENDING PIN AND THE GROUND**	
	standard	1300 mm - 4 3"
	optional upon request	> 1300 mm - > 4 3"
	**OPERATING TEMPERATURE**	
	standard	-5° C / +40° C - 23° F / 104° F
	optional upon request	-15° C / +55° C - 5° F / 131° F
	**INSTALLED POWER**	
	maximum (other sizes upon request)	35 kW/k 47 hp

THE PLANT DOES NOT REQUIRE COMPRESSED AIR

fy: Max. unit yield point - ft: Max. Tensile strength

09.2014

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