



Stirrup bender and automatic shaping from coil

Mini Syntax 16

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MEP
the history of innovation



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VERSATILITY AND INNOVATION

The **MINI SYNTAX 16** is the sum of all best technology solutions developed in the field of coil processing, straightening and shaping. In this machine it is reached the **maximum level** of **flexibility, productivity** and **product quality**.



THE EFFICIENCY THAT REDUCES THE COSTS

The high productivity is guaranteed in any condition, regardless if there is a requirement for **serial production** or processing of **individual building elements such as beams and columns**. The **MINI SYNTAX 16** can offer an outstanding flexibility of application, and the capability of processing double wire up to 12 mm in all versions, and single wire 16 mm. The large production capacity, as well as the adaptability in different production configurations, makes the **MINI SYNTAX 16** 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**.





QUALITY AND PRODUCTIVITY

The **MINI SYNTAX 16** 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 **reduces drastically 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 shapes not co-planar and open stirrups.

patented

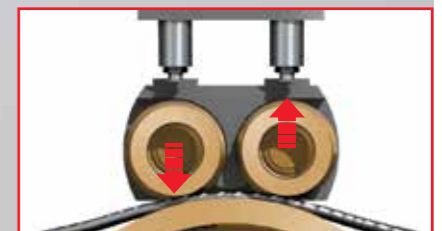
AN INNOVATIVE SOLUTION

The **AFS** is a straightening system that eliminates the effect of the wire rotation on its own axis. Therefore, **closed stirrups and straight bars** can always be produced.

The **independent control** of the traction on two wires, as well as the increased surface of contact with the **large infeed wheel**, eliminates any difference in length between the two wires.

Thanks to this design and to the consequent lower pressure applied on the steel material, **the coil ribs are far less deformed by the straightening process**.

The lifetime of the **infeed roller themselves** is about **8 times longer** than in case of traditional straightening methods.

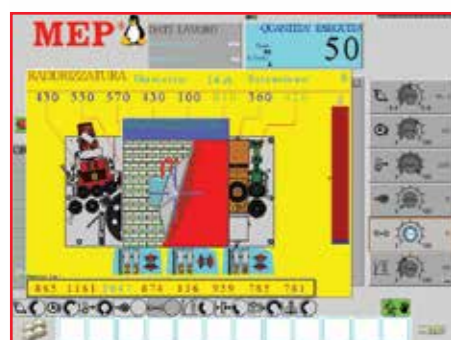


± 1 mm



CONTROLLED STRAIGHTENING

Specific corrections can be applied on the straightening set up of each individual wire even though working in double strand mode and also during the working cycle, thus without stopping the production.



Secondary feeding unit: a patented system

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.

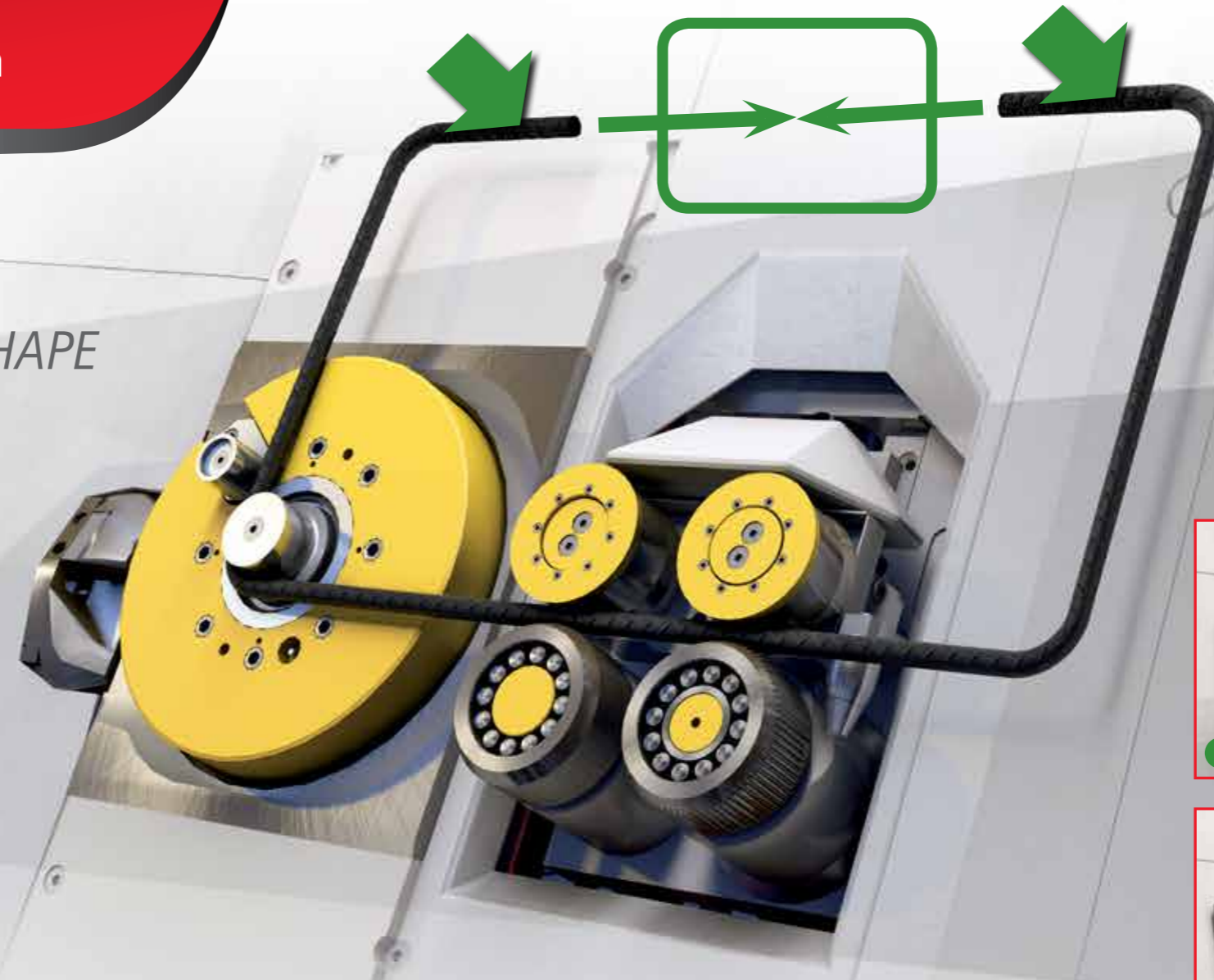
This solution enables the production of **shaped products of all forms and sizes** using **the entire working surface**.

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 phenomenon of rotation.



WORLD SYSTEM Controllo Totale

- **MEP Industrial PC "World System" operator control panel is comprised of:**

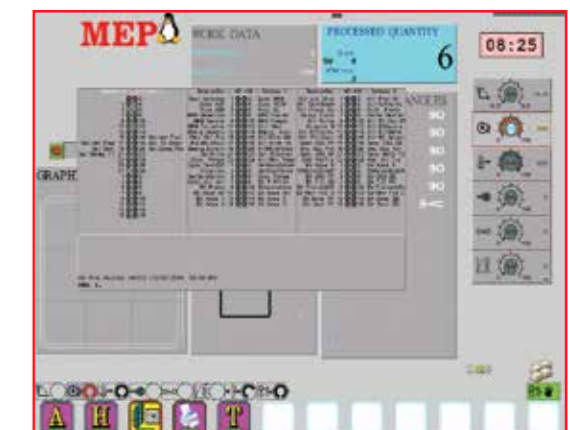
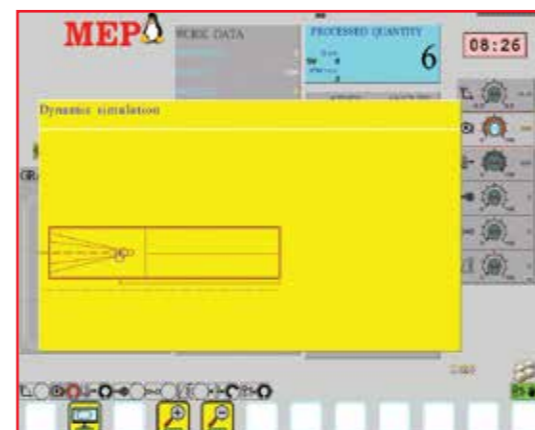
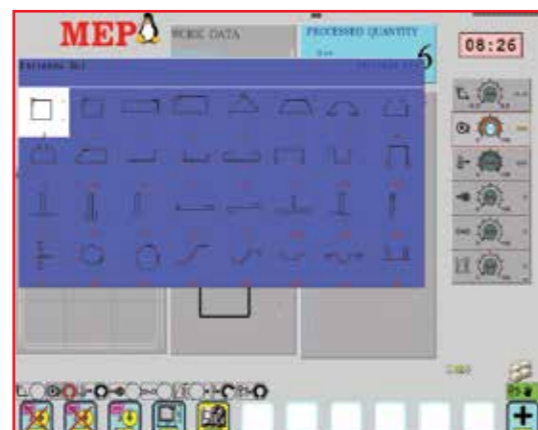
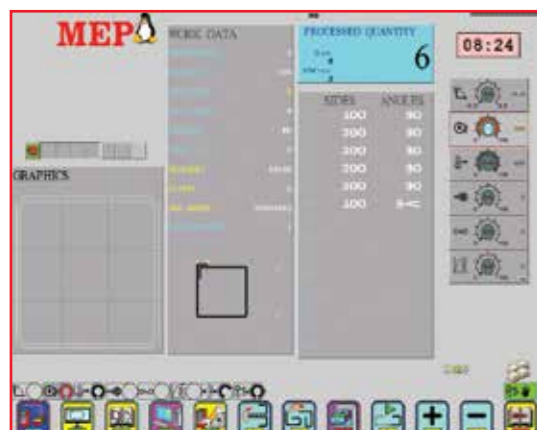
- LCD "Touch Screen" for the user friendly graphical visualization of all data.
- Compact, "embedded" microprocessor with low power consumption and a compact flash disk with no moving parts (diskless).
- Linux operating system.
- Automatic backup saving system in case of accidental power interruption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

- **The custom software developed by MEP allows:**

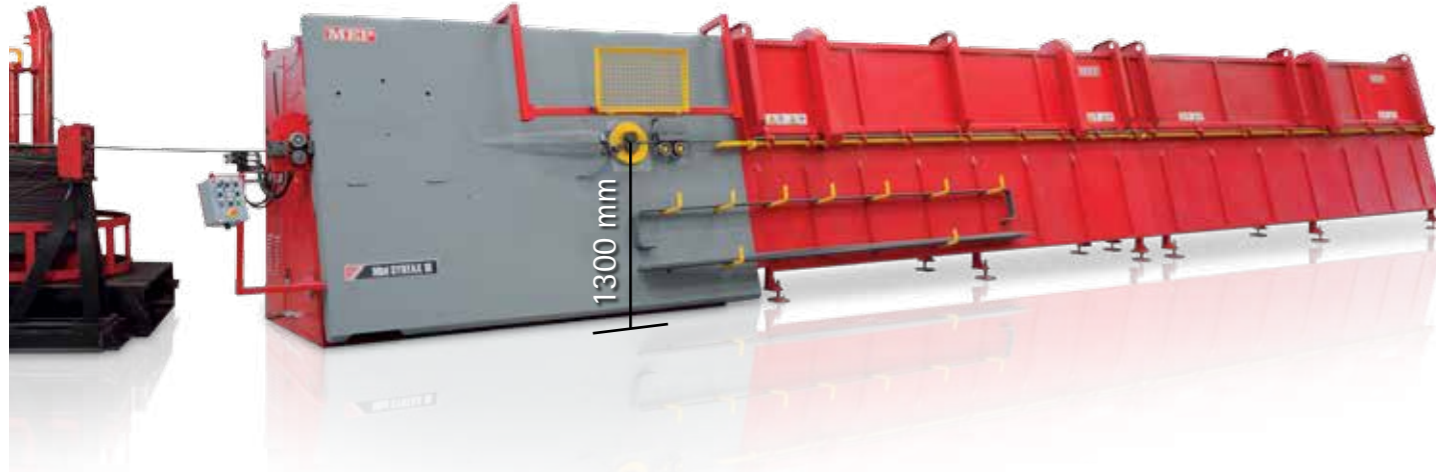
- Data input with graphic visualization of programmed and pre-memorized shapes with feasibility checks via a "dynamic simulation".
- Control of all speed parameters in execution via a potentiometer.
- Access to the straightening correction function, without stopping the production process, through the 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).



Control panel for Mini Syntax 16



SAFETY AND ERGONOMIC



MINI SYNTAX 16 allows to get coplanar shapes and stirrups continuously closed, eliminating the dangerous manual operator intervention during the bending phase.

COMPLIANCE BENDING PINS



- Bender supplied with central bending pins that conform to international standards. Exclusive MEP design, designed to facilitate the overlapping and the guiding of the external wire with respect to the internal one during the bending phase. This means that complex or even very small stirrup can be realized with two wires simultaneously.

QUALITY DECOILING



- Decoilers equipped with an automatic braking system monitored by the control panel according to the work cycle.



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

ACCESSORIES



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





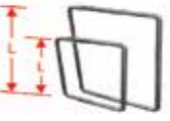







- Motorized pre-feeding roller, for the insertion of the wires.



- Pins for producing circles. (OPTIONAL)

TECHNICAL AND PRODUCTION CHARACTERISTICS

			
	SINGLE STRAND PROCESSING WIRE DIAMETER		
	cold drawn, hot rolled, smooth or ribbed wire fy = 600 N/mm ² - ft = 700 N/mm ² (other loads upon request)	Ø 8 - Ø 16 mm - #2 - #5	
	DOUBLE STRAND PROCESSING WIRE DIAMETER		
	cold drawn, hot rolled, smooth or ribbed wire fy = 600 N/mm ² - ft = 700 N/mm ² (other loads upon request)	Ø 8 - Ø 12 mm - #2 - #4	
	SQUARE STIRRUP DIMENSIONS		
	minimum with Ø 8 mm - #2 wire (optional bending pin)	80 mm x 80 mm - 3" x 3"	
	maximum if clockwise	1000 mm x 1000 mm	
	maximum if counterclockwise (with eventual optional cover extension)	2000 mm x 2000 mm - 6- 7" x 6- 7"	
	LENGTH OF STRAIGHTENED AND CUT-TO-LENGTH BAR		
	minimum maximum (if equipped with optional supporting guide; other sizes upon request)	5 mm - 3/16" 12000 mm - 39-4"	
	CENTRE FORMING TOOLS DIAMETER		
	minimum maximum (other sizes upon request)	32 mm - 1 1/4" 120 mm - 4 2/3"	
	MAXIMUM DISTANCE BETWEEN CENTRAL BENDING PIN AND THE GROUND		
	standard optional upon request	1300 mm - 5-3" > 1300 mm - > 5-3"	
	OPERATING TEMPERATURE		
	standard optional upon request	-5° C / +40° C - 23° F / 104° F -15° C / +55° C - 5° F / 131° F	
	INSTALLED POWER		
	maximum (other sizes upon request)	37 kW/h - 49.5 hp	

THE PLANT DOES NOT REQUIRE COMPRESSED AIR.

fy: max. unit yield point - ft: max. tensile strength

Note: #2 = 1/4" ; #4 = 1/2" ; #5 = 5/8"

MEP

MEP Macchine Elettroniche Piegatrici
via Leonardo Da Vinci, 20
I - 33010 Reana del Roiale (UD) - ITALY
Tel. +39 0432 851455
Fax +39 0432 880140

MEP
ASIA

MEP Asia Co., Ltd.
1303 Ho, 301-Dong, Bucheon Techno Park
345 Sukcheon Ro, Ojung-Gu
Bucheon, Gyunggi-Do - SOUTH KOREA
Tel. +82 32 329 1956
Fax +82 32 329 1957

MEP
BRASIL

MEP Brasil Ltda.
COM. E SERV.DE MAQS.
Rodovia Sp-79, S/N Km 122 Bloco B
18170-000 - Liberdade - Piedade - Sp
Tel. + 55 11 2248-9800
Fax + 55 11 2248-9800

MEP
FRANCE

MEP France S.A.
8 bis, rue des Oziers
BP 40796 Zone d'Activités du Vert Galant
95004 St. Ouen L'Aumône FRANCE
Tel. +33 1 34300676
Fax +33 1 34300672

MEP
IBERICA

MEP Iberica
C/ Plàstic, 5 - Pol. Les Guixeres
08915 Badalona - Barcelona ESPAÑA
Tel: +34 934396800
Fax +34 934490013

MEP
NORD SERVICE

MEP Nord Service GmbH
Gewerbepark, 3
6068 Mills AUSTRIA
Tel. +43 664-88732022

MEP
NORTH AMERICA

MEP North America
6020 NW 99th Ave
Suite No. 314
Doral, FL 33178
Tel. +1 786 953 4986

MEP
POLSKA

MEP Polska Sp. z o.o.
ul. Józefowska 13/A
93-338 Łódź POLAND
Tel. +48 42 645 7225
Fax +48 42 645 7058

MEP
VOSTOK

MEP Vostok OOO
ul. Yasenevaya, 10, korp.1 kv.1
pos. Sosenskoe, der. Sosenki
142791 Mosca, RUSSIA
Tel./Fax: +7 495 745 04 90

www.mepgroup.com
sales@mepgroup.com