Станки для рубки арматуры и производства скоб Syntax HS

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Syntax HS

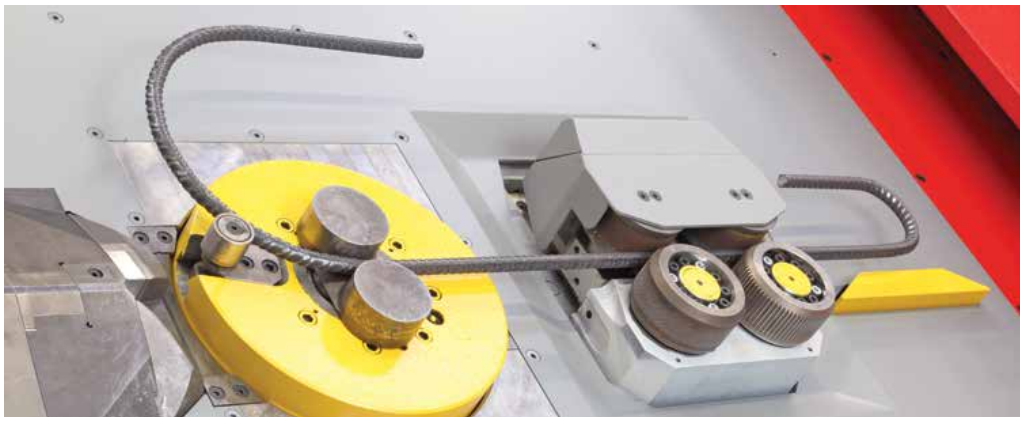
HYBRID

Generation III

SYNTAX HS enjoys the highest technological development in the field of multifunctional off-coil machinery (shape forming, stirrup bending, wire straightening and radius forming) for flexibility, productivity and the quality of the product that can be obtained.
Industrial costs per ton are therefore reduced thanks to the use of fewer machines and operators.

The SYNTAX HS inherits part of the technology developed for the MINI SYNTAX back in 1997, which is the progenitor of a range that is currently in its third generation with more than 2200 units produced.

Syntax HS



(*) The data may be subject to variations depending on the quality of the wires used.

Maximum productivity

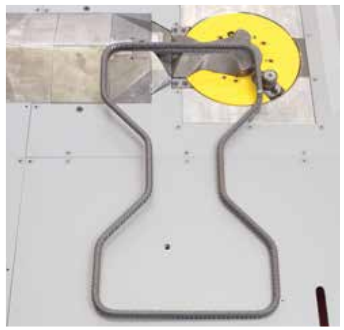
SYNTAX HS is able to work wire in coils, within a diameter range from 8 to 16 mm.
They allow to produce shapes and stirrups, straight or shaped bars with one or more bends on both sides up to a maximum length of 18 m.

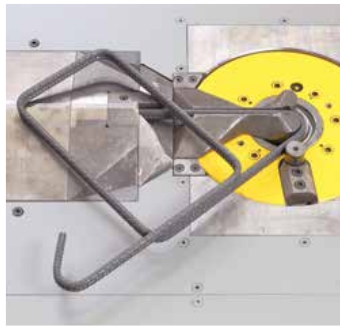
High productivity is guaranteed both in the case of series production (same diameter with two wires up to 13 mm, optional 14 mm*) as well as for processing of single elements (single strand up to 16 mm).

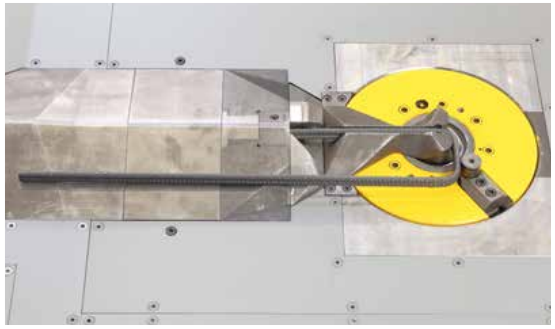
Maximum flexibility

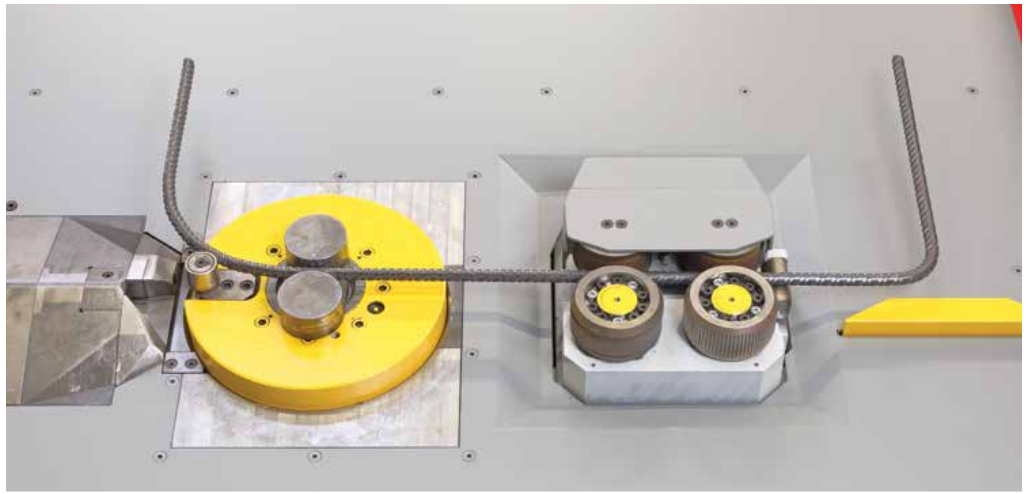
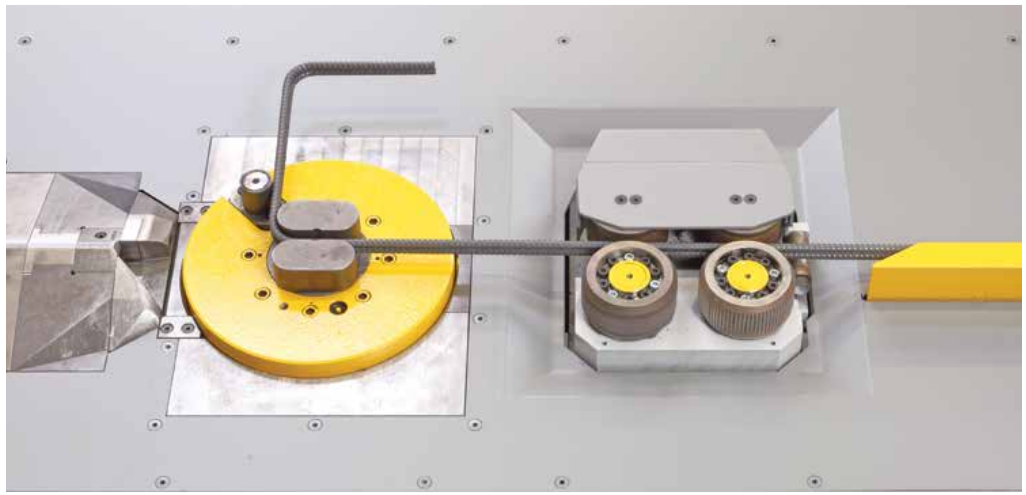
From small to large-sized stirrups, straightened bars, shaped with one or more bends on both sides, circles spirals and radius, are realized in a completely automatic way, thanks to a complete range of accessories able to satisfy the most varied production requirements.





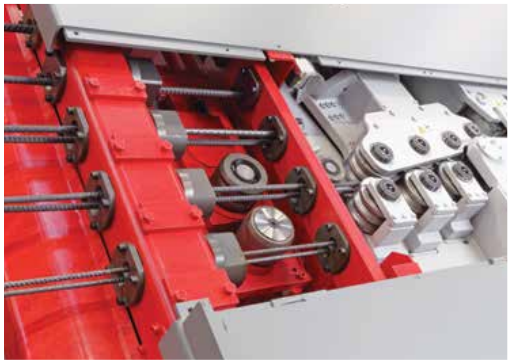


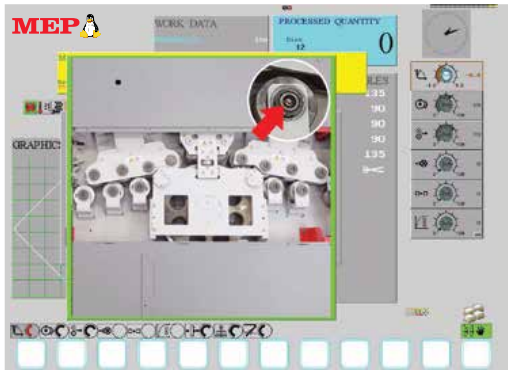



Exclusive automation

A state-of-the-art drives and control systems allow for unrivalled hourly productivity levels.
The manual operations entrusted to the operator are completely eliminated, which inevitably slow down the production processes, creating an optimized and continuous work cycle.





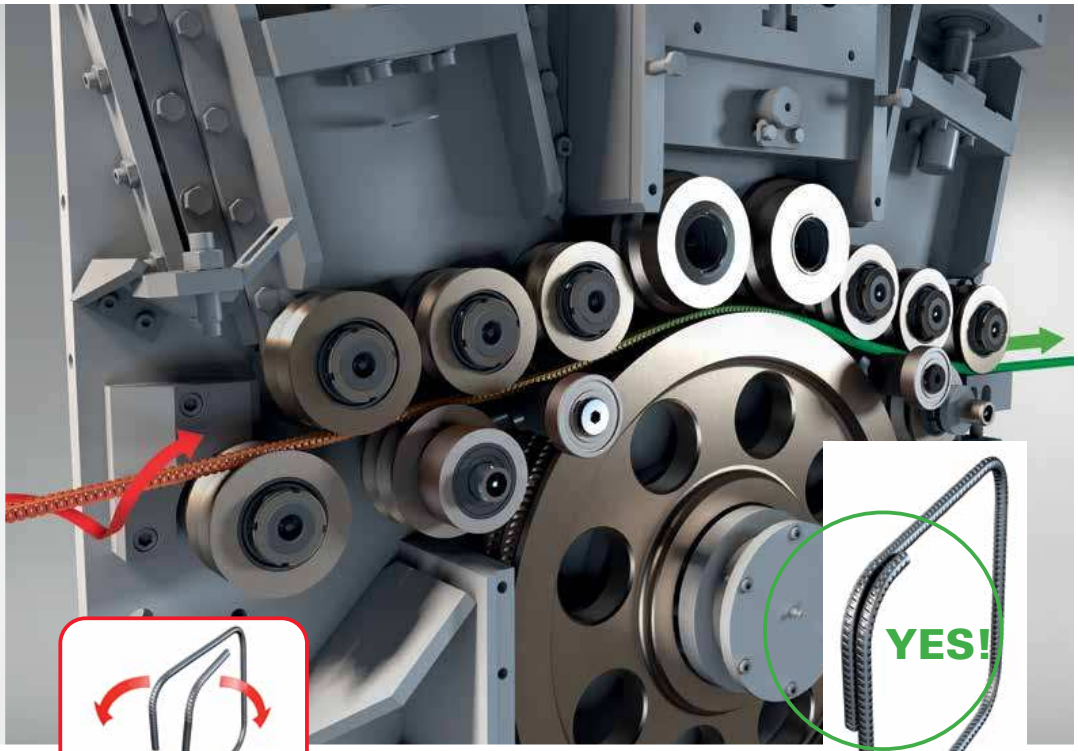
Quality and productivity “patented”

SYNTAX HS allows to obtain, in a simple way, a qualitatively superior product.
The combined action of an exclusive series of patented devices, reduces set-up times deriving from complex adjustments and drastically reduces the quantity of products destined to be discarded.

AFS 4
Advanced Feeding System

Anti-twisting and straightening system

The AFS 4 (Advance Feeding System 4) is a revolutionary straightening system patented way back in 1997, now in its fourth generation it has been used in more than 7000 machines.
It allows to control the rotary effect of the wire on its own axis, which can characteristically happen during wire feeding.
As a result closed stirrups and straight bars are obtained.



Any rotation of the wire during the advancement phase generates open stirrups.

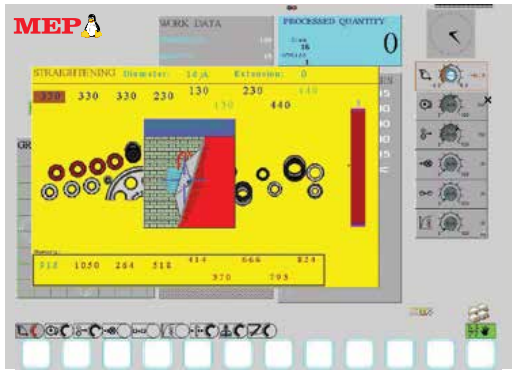
The AFS 4 system guarantees superior straightening of the wires and closed stirrups.

Guaranteed quality

The innovative configuration of the rollers arranged on a single plane greatly facilitates the control of the straightening of the two wires being processed, with a consequent increase in the hourly productivity of the plant and the drastic reduction of non-compliant products destined to be discarded.

Unfailing traction with minimal wear

The wide-surfaced feeding roller, unique in its design, guarantees a large contact surface with the two wires being processed. This ensures superior control of feeding and anti-rotation (anti-twisting), as well as decreasing the wear by at least 10 times, when compared to other feeding systems which are based on much smaller rollers, thus significantly reducing the costs for each ton produced.

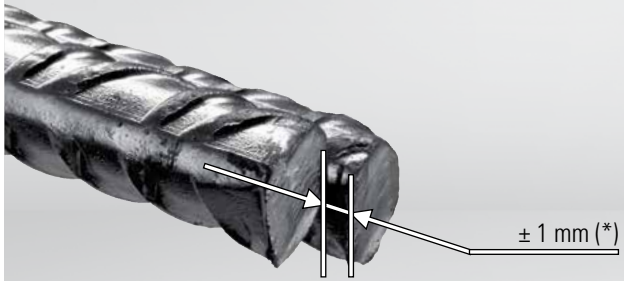


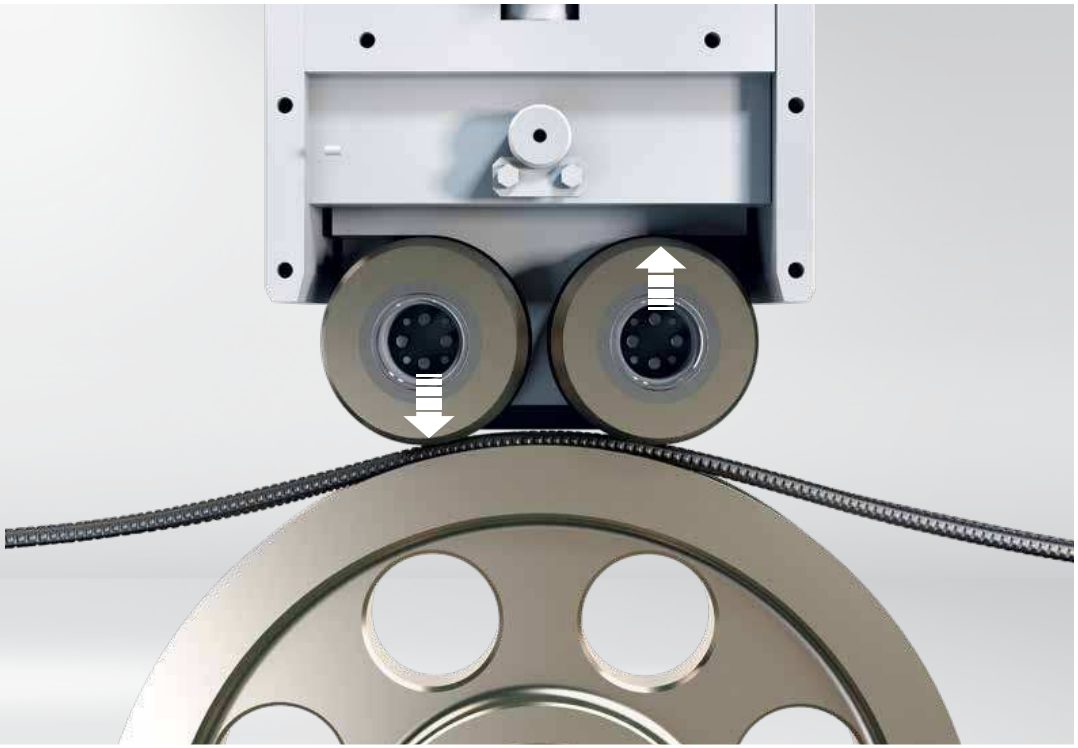
Straightening under control

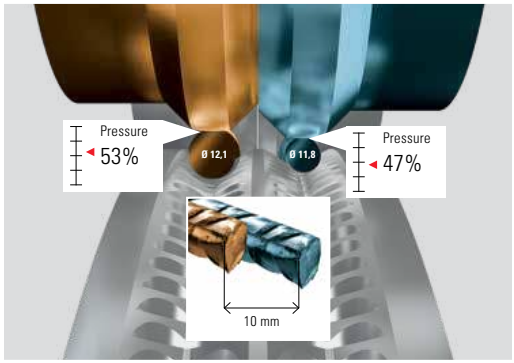
The combined action between the AFS 4 system and the "user friendly" electronic pointer allows to automatically manage the individual straightening of the wires even during the work cycle.
Various settings can be stored depending on the quality/ type of the material, diameter or simply of the manufacturer.

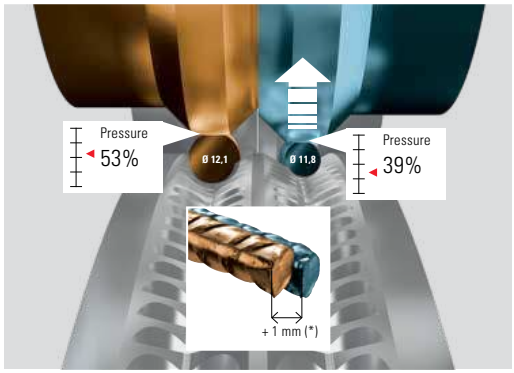
Unparalleled precision

The AFS is the only system available on the stirrup bender market that allows the control of the feeding of the two wires independently and efficiently.
An exclusive mechanical system adapts to the different sections of the two running wires as well as automatically compensating for the negative effects due to the wear of the two channels of the main feeding roller, therefore the length variation between the two wires produced simultaneously are eliminated, reaching tolerance levels up ± 1 mm/m (*).





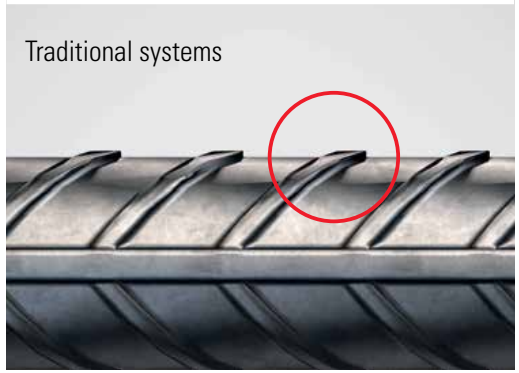




Pressure under control

The control of the lengths of the straightened wires, is managed to the action of individual independent actuators which act on the two "contrast rollers" which bear down onto the main feeding roller.

The operator can vary the pressure independently on each wire directly from the control panel, allowing him to correct any errors between the two wires to gain the required tolerance.
The adjusted data is memorized so that each time the wire size is changed from one wire to another (automatic diameter change) the system automatically readjusts itself to the previously stored settings.



Non-damaged ribs

The AFS is a system that allows control of the pressure on the two running wires individually, therefore it contains the superficial crushing of the "ribs" typical of traditional roller systems or those based on rotor technology.

(*) The data may be subject to variations depending on the quality of the wires used and the state of wear of the rollers.

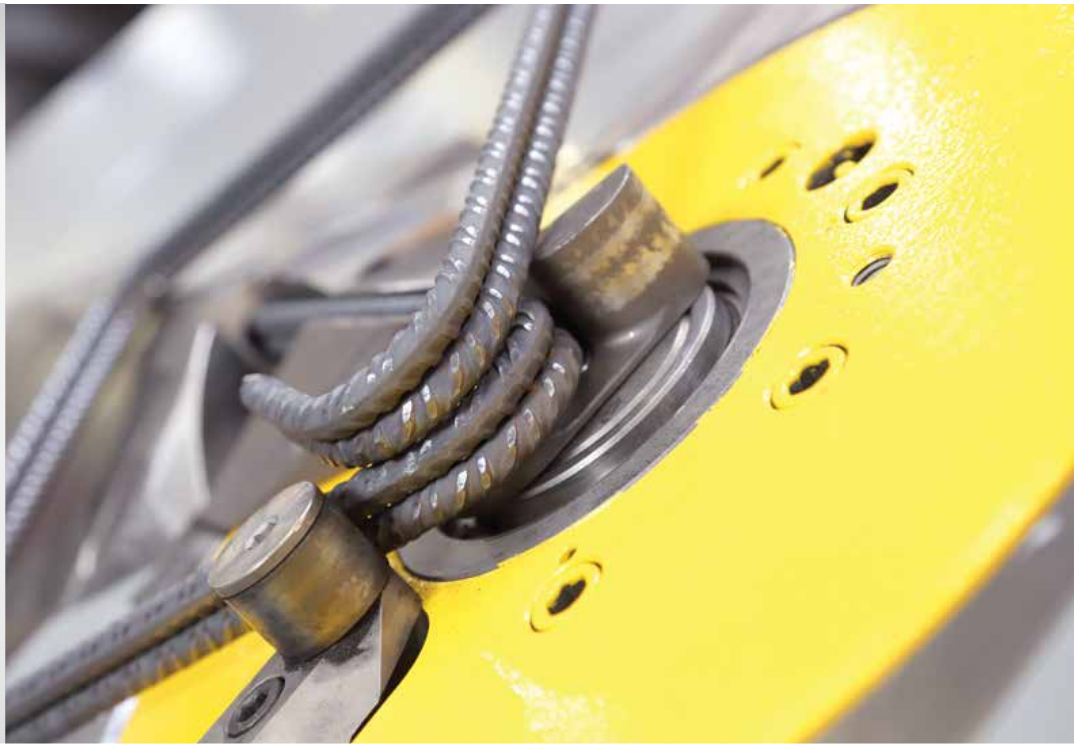
Bending quality

SYNTAX HS uses a single bending unit instead of two as is normally the case with traditional shaping machines.
The work cycle is considerably simplified and speeded up, since eliminates the time associated with the unnecessarily complicated transfer of the processed wires to a second bending unit, as well as those normally necessary for the transversal movement of one or two bending units and their setting and preparation (change of pins, angle calibrations, etc.).

Back in 1970, MEP introduced an innovative bending machine, equipped with a special bending pin, characterized by a central channel able to act as a guide and a point of contrast for the wires during the bending phase. This avoided the undesirable deforming action (unwanted curvature of the side) that otherwise originated in the case of pins with a circular shape.
The stirrups and shapes thus obtained are characterized by always straight sides and very precise angles, avoiding subsequent problems or manipulation of the products made during the assembly phases (welding or tying).

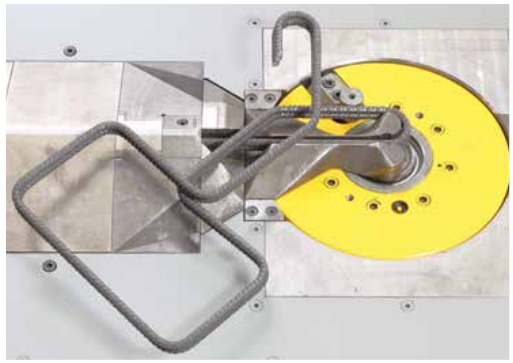
A series of exclusive pins and devices allow to widen the range of possible bending processes, reducing considerably the dimensional limits (minimum sides) and the shape limits (complex stirrups of medium to big dimensions with more sides and angles, radii and circles) that cannot be processed with traditional shaping machines.

A special software feature included allows to create bends with variable bending radius using the same central pin, through the "virtual pin" function typically appreciated when large bending radii are required.



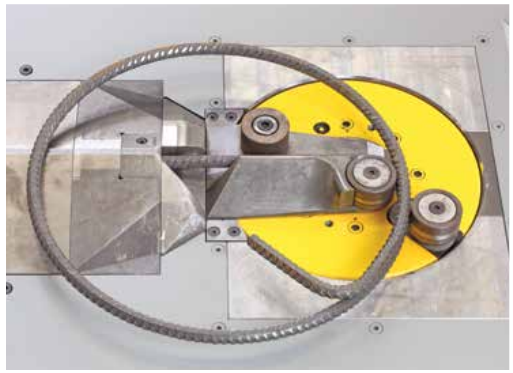
Pins for shapes

Complying with international standards, they are "customizable" (optional) through the use of various bending radii and geometrically different shapes depending on the element to be produced.



Pins for stirrups

Complying with international standards, these bending pins are "customizable" (optional) through the use of various bending radii and geometrically different shapes depending on the element to be produced.



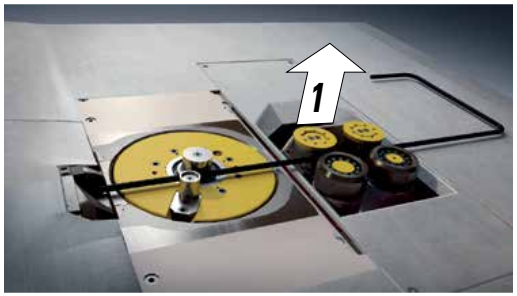
Pins for circles

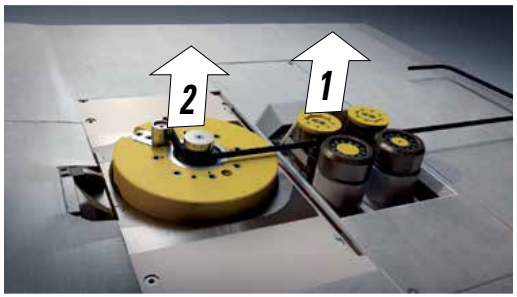
Available on request (optional), it is suitable for the production of circles and curved elements whose ends need to be bent.

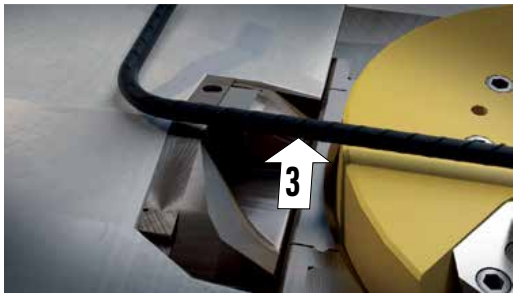
Additional secondary feeding for each shape

The "Secondary Feeding Unit" is a revolutionary system patented in 1993, now in its second generation it has been used in more than 3000 machines.
It allows the production of large stirrups and the forming of large shapes with bends at both ends of the bar, using a single bending head as opposed to two.

The cycle is considerably simplified and speeded up, as all the work is performed on the same plane, as opposed to having to move the work to another position and/or unnecessarily employing a second bending head. This also results in lower setup times and calibrations (pin change, angle settings, etc.).
This solution guarantees a better quality of the finished product as well as increasing the productivity of the plant itself.

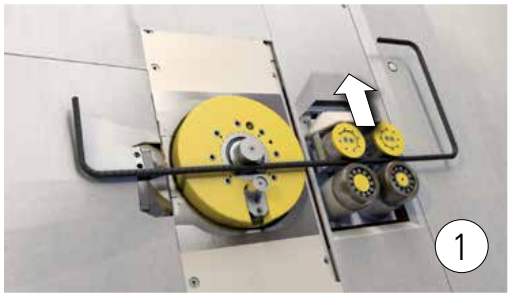


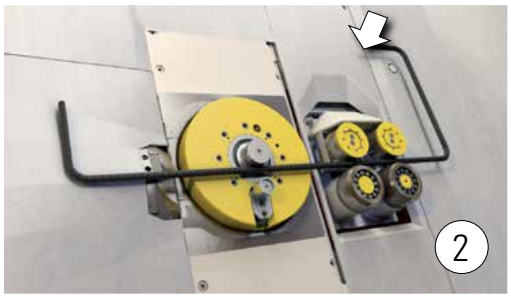


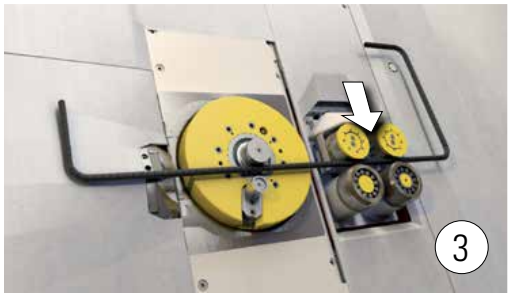


Freedom in shape and size

This method involves the simultaneous outward movement of the Secondary Feeding Unit (1) and the bending head (2) in relation to the machines normal working surface, avoiding any collision between the side of the produced shape and the shear unit (3) during the reverse feeding stage.
Thus it is possible to produce stirrups and shapes of the most varied shapes and sizes, using the entire work surface.







Gravity to the assistance of quality

This method uses the gravity effect during the bending cycle to obtain coplanar shapes.

The rollers of the "Secondary Feeding Unit" release (1) the shape produced allowing it to "lay" backwards against the surface of the machine due to gravities effect (2) then, before making the next feed and then bend, the upper feed rollers clamp back down holding the product securely (3).

Each subsequent feed and bend will be aligned (4) eliminating the unwanted known characteristic of rotation of the wire during the reverse feeding phase of the cycle.

Management of the coils

The entire production process that begins from the loading of the coils up to the collection of the finished product, passes through a series of devices that allow an optimal management. All this translates into efficiency and productivity.

De-coiler automation

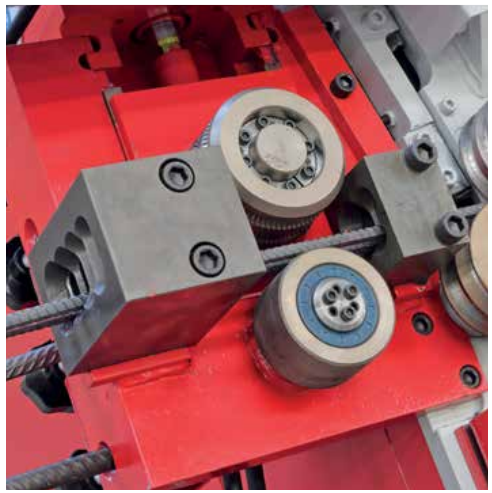
The latest payoff generation are suitable for the use of both the “wild coil” (wire rod) or “compact coils” (spooled) of different weights (up to 3.2 to 5 t) and dimensions, through a series of customizations (spacers) and optional.
Available in the two formats, the “LC” or the “LCM” version, which provide a braking system that is automatically controlled according to the shape to be produced.
The “LCM” series includes automatic motorization which is necessary if you wish to use coils weighing more than 3.2 t.

“CE” protection fences and gates, are also available that allow access to a common area where all the payoffs are positioned, or for independent access to each single coil (optional). In the latter case, the operator can prepare the new coil while the machine is working. This is in compliance with the highest safety standards, and thus increasing the efficiency and safety of the system.

Inserting the wire has never been easier

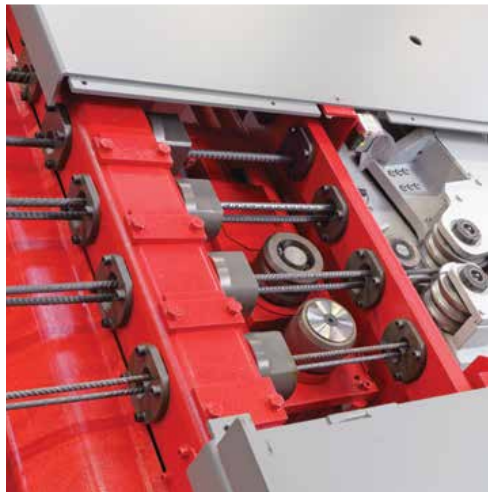
The winch (optional) is equipped with a locking device that allows the fixing and control of the start of a new coil and allows it to be dragged and threaded through the various guides up to the machine inlet.

The portable, hand held straightening device (optional) is recommended in case of continuous use of large diameters or in cases where the coils are of poor quality.



Pre-feeding group

This unit is equipped with a motorised roller which being operated by means of a manual selector switch, allows the two ends of the new coil to be easily fed into the machine.
It is used in the initial feeding phase of new coils, (from the entrance guide through the roller guides leading up to the AFS 4 feeding unit) and as an extraction unit for the last part of the coil (in the opposite direction).



Automatic wire-change in seconds

The exclusive multi-wire pre-feeder (optional) automatically performs the change of the wires in a very short time. At the same time, the AFS 4 straightening system reconfigures itself according to the diameter of the coil to be processed using the pre-stored data. Thanks to this solution, the machine is ready to resume production in a matter of seconds without any manual intervention by the operator.

A special device (optional) allows the processing of “tags” with even or odd quantities in a completely automatic way, combining multiple sequences that require the processing of two wires simultaneously with those with a single wire.

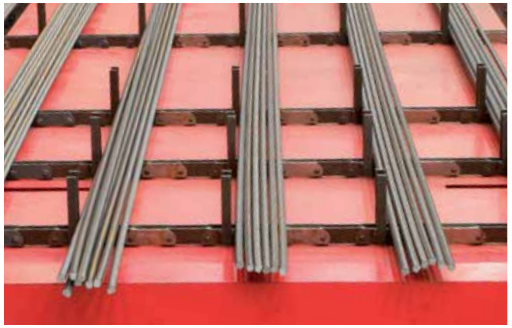
Safety and ergonomics

The SYNTAX HS unique design allows to obtain closed stirrups and coplanar shapes, eliminating any dangerous manual intervention of the operator during normal production.

The operator therefore always works in conditions of high safety and in an extremely ergonomic environment.

Automatic collection

SYNTAX HS is equipped with a programmable collector shelf that automatically allows the selective collection of straightened bars or certain long types of shapes.
This allows the operator to separate the production according to the quantity or type of products required, making it easier to tag and/or tie.
The same operation is possible through the use of manually removable supports to be inserted into positions provided.

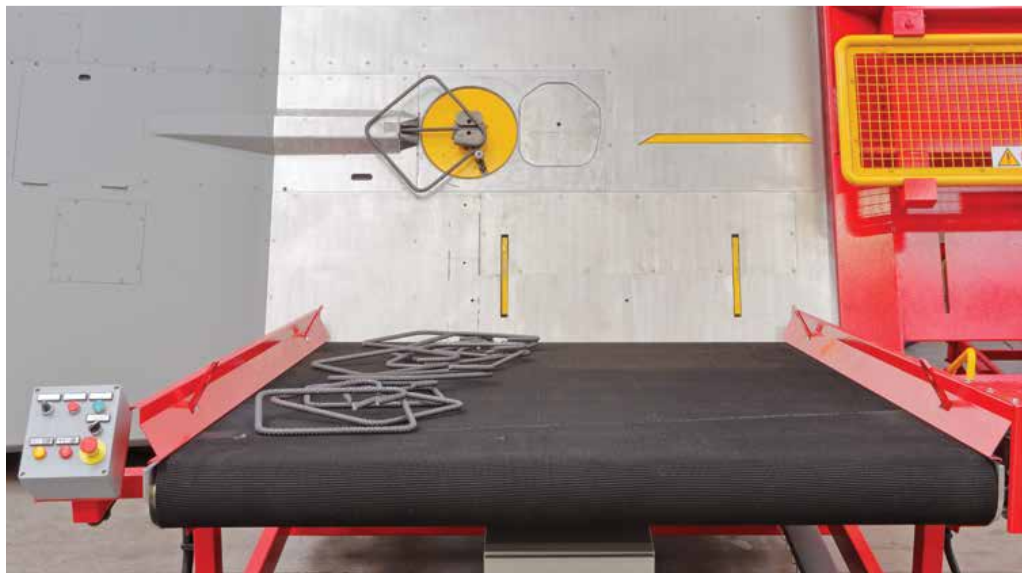


Chain collector conveyor

This device (optional) is particularly suitable in cases where the output is more intended for the production of straightened or long length shaped bars (small sides), to be grouped and tag in small quantities.
The elements produced can then be unloaded into the two special fixed collection pockets, where several positions can be grouped and tied together.

Collect stirrups and shapes

Available in different configurations (optional), both in the versions with oscillating arms (close stirrups) and those that include conveyor belts (stirrups and shapes) allow the collection and transfer of the products to an area adjacent to the operator, facilitating collection in total safety and efficiency.

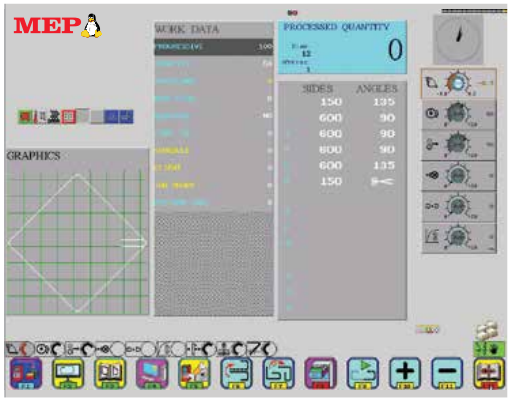


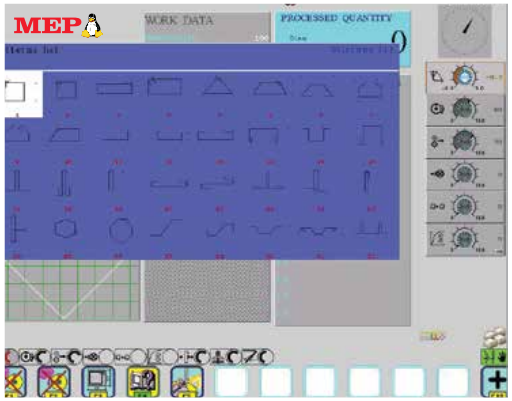
MEP World System: total control

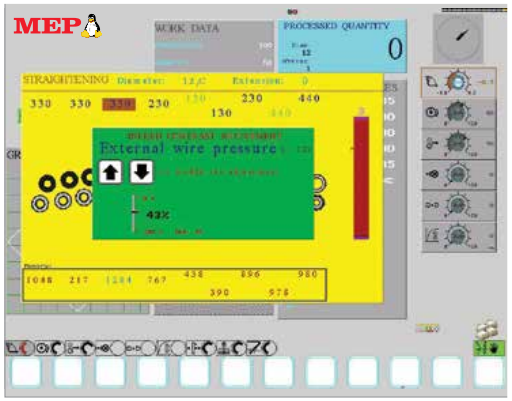
The World System, through a "user friendly" interface, allows total control of all the devices of the system, enhancing its performance.

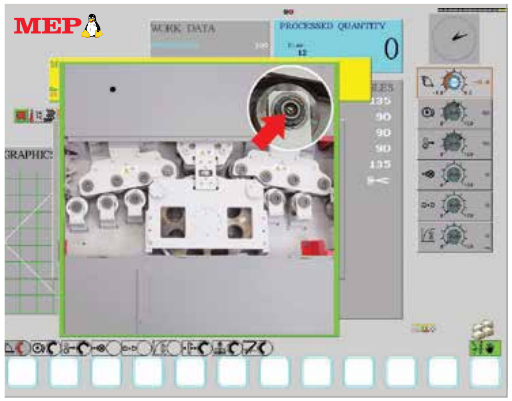
The programming of the production cycle allows to use the pre-memorized parameters related to speed, compensations, etc. relative to shape, dimensions and diameter of each single element.

The operator panel P.C. Industrial MEP "World System" is composed of:
- "Touch screen" LCD screen.
- Compact ("embedded") low absorption ("fanless") microprocessor equipped with "compact flash disk" without moving parts ("diskless").
- Linux operating system.









World System software

The software specially developed by MEP allows:
- Programming of "user friendly" 2D shapes supported by active graphics, or through a library of predefined shapes and dimensional feasibility monitoring through the "dynamic simulation" function.
- Advanced features for searching the shapes saved in the archive.
- Import of programming data according to the most common protocols: BVBS, Unitechnik, British Standard, MEP-U2000.
- Creation of lists containing progressive memory in sequence or possibility to import them from the office.
- Storage and archiving of data related to work cycles and generation of daily production statistics (progressive memory, diameters, times, weights, etc..) and possible "remote" display from the office.
- "Active diagnostics" system for a constant monitoring of the functioning of the main groups of the plant and possible single and sequential movement of the same.
- Automatic activation of the programmed maintenance.
- Advanced functions for the calibration of the measurements of the sides and of the bending angles.
- Optical barcode reader (optional) via USB or RS232 serial port.
- USB port connection.
- Possibility of connection to the company network through RJ45 Ethernet port (LAN port) or RS232.
- Ready for remote assistance via Internet (company network for remote diagnosis).
- Can be interfaced with external "ROBOT ready" systems.
- "Industry 4.0 ready" certification.

Technical and production characteristics

SYNTAX HS

SINGLE STRAND PROCESSING WIRE DIAMETER 2D	
cold drawn, hot rolled, smooth or ribbed wire	Ø 8 - Ø 16 mm | #2 - #5
DOUBLE STRAND PROCESSING WIRE DIAMETER 2D	
cold drawn, hot rolled, smooth or ribbed wire.	Ø 8 - Ø 13 mm | #2 - #4
	optional 14 mm | #4
SQUARE STIRRUP DIMENSIONS	
minimum with single strand (optional bending pin)	100x100 mm (Ø 8 mm) | 3.94x3.94" (#2)
maximum if clockwise	1400x1400 mm | 55.12x55.12"
maximum if counterclockwise	1500x1500 mm | 59.05x59.05"
BAR LENGTH STRAIGHT AND CUT TO SIZE	
minimum	5 mm | 0.19"
maximum (if equipped with optional collecting bench; other sizes on request)	12000* mm | 472.44"
CENTER BENDING PIN DIAMETER	
minimum	32* mm | #10*
maximum	160* mm (2D) | 6.30" (2D)
MAXIMUM DISTANCE BETWEEN CENTRAL BENDING PIN AND GROUND	
standard	1900 mm | 74.80"
optional upon request	> 1900 mm | > 74.80"
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 upon request)	97 kW

THE PLANT DOES NOT REQUIRE COMPRESSED AIR.

fy = 600 N/mm² : max. unit yield point - ft = 700 N/mm²: max. unit tensile strength (other on request)

* available as an option

Customization

Portable straightening device	◓
Winch	◓
Multi-wire pre-feeder (single wire / double wire version)	◓
Pin for circles/spirals	◓
Collecting bench length from 6000 mm (20') to 12000 mm (40'), height 1200 mm (47.24") (other sizes on request)	◓
Elevation spacer for compact coils "spooled"	◓
Stirrup collector, conveyor belts, chain collector conveyor	◓

● Standard equipment
◓ Equipment available as an option
○ Equipment not available

По вопросам продаж и поддержки обращайтесь:

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