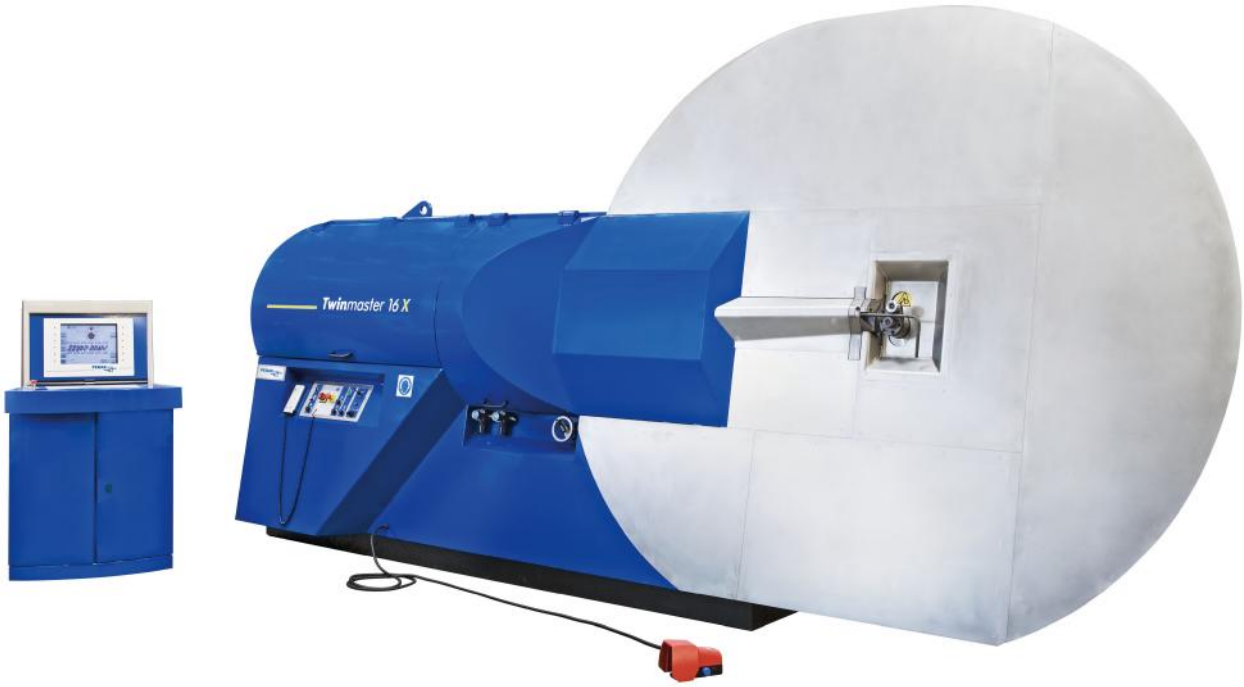
Automatic stirrup bending machine for the fully automatic processing of reinforcing steel off the coil

Twinmaster 16X, model 051J:

ID no. 01-300



Automatic stirrup bending machine Twinmaster 16 X, model 051J
designed for 6 – 16 mm Ø for single wires and for 6 – 12.7 mm Ø for double wires.

Scope of delivery and description of the modules:

Machine frame

Machine frame with a sturdy, welded steel structure. Two doors at the rear side. Slim screen for optimum stirrup production.

Servo drives

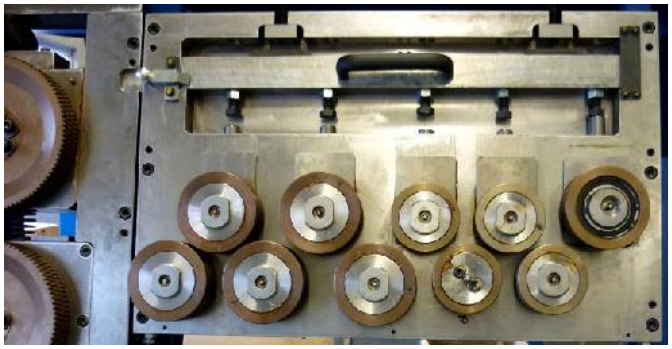
Latest technology from Bosch-Rexroth, up to 200 amperes, for the drive station and the bending unit.
Connected load: 24 KW, average consumption only 7-10 KW.

High pulling force: 15,000 – 22,000 N – this ensures simple processing of wires up to 16 mm in diameter in case of single wires and up to 12.7 mm in diameter in case of double wires.

Additional auxiliary drive

Additional auxiliary drive for the transport of the wire into the machine, consisting of 2 pairs of feeding rollers driven by a servo motor.

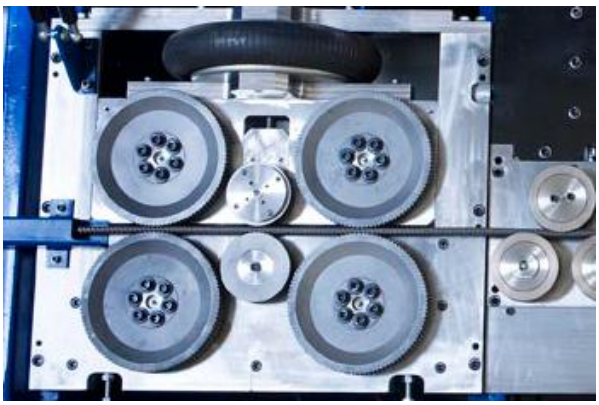
Two semi-automatically adjustable straightening units



Each straightening unit is equipped with 9 straightening rollers for the processing of twin-strand. All rollers have VV-grove for perfect straightening of round, square or octagonal wire profiles. The last roller of each straightening unit is divided, so that is is possible to adjust the two wires automatically by means of two electronic motors via 2 joysticks during production.

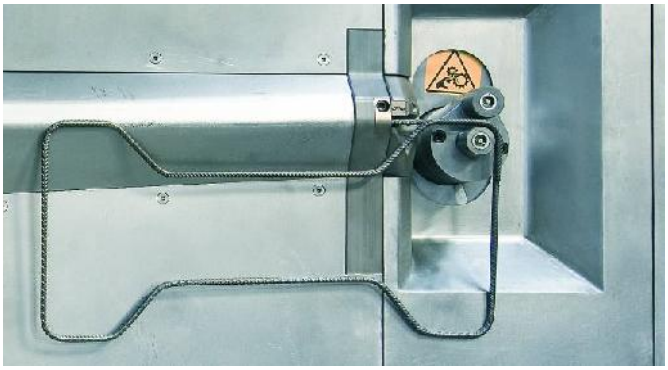
Each straightening unit has a pre-set JIG for each wire diameter making wire change very easy.

Feeding unit and measuring system



For pulling in the wire, consisting of driven rollers. Driven by motors from Bosch Rexroth. Precise measurement of the actual length via measuring rollers, which are integrated in the drive station and pressed on firmly by pneumatic means.

Cutting and bending unit



Cutting device, electrically driven, rotatable blades with screw fixing.
Precise guide for single and double wires directly before the cutting device.

Bending device for clockwise and anticlockwise bending, driven by an electric servo motor. Bending of stirrups and spirals possible – special bending tools are required for spirals (see options). Height adjustment of the bending mandrel, depending on bar diameter, on the front side of the machine.

The scope of delivery includes several bending heads as well as bending mandrels for wire diameters of 6, 8, 10, 12, 14 and 16 mm (design according to bending standard of the respective country).

Scope of delivery (4xd):	Scope of delivery (5xd):	Scope of delivery (6xd):
Bending head 45 mm	Bending head 45 mm	Bending head 55 mm
Bending head 55 mm	Bending head 55 mm	Bending head 75 mm
Bending head 65 mm	Bending head 65 mm	Bending head 85 mm
Bending head 75 mm	Bending head 75 mm	Bending head 93 mm
Bending head 85 mm	Bending head 85 mm	
	Bending head 93 mm	
1 x bending roller Ø 32/20 mm	1 x bending roller ø 32/20 mm	1 x bending roller ø 36/20 mm
2 x bending roller Ø 40/20 mm	2 x bending roller ø 40/20 mm	1 x bending roller Ø 40/20 mm
1 x bending roller Ø 50/20 mm	1 x bending roller ø 45/20 mm	1 x bending roller Ø 48/20 mm
1 x bending roller Ø 66/20 mm	1 x bending roller ø 55/20 mm	1 x bending roller Ø 50/20 mm
1 x bending roller Ø 48/30 mm	2 x bending roller ø 50/30 mm	1 x bending roller Ø 50/30 mm
1 x bending roller ø 50/30 mm	1 x bending roller ø 56/30 mm	2 x bending roller Ø 60/20 mm
2 x bending roller ø 56/30 mm	1 x bending roller ø 60/30 mm	1 x bending roller Ø 64/30 mm
2 x bending roller ø 64/30 mm	1 x bending roller Ø 72/30 mm	1 x bending roller Ø 72/30 mm
1 x bending roller Ø 24// Ø 22 mm	1 x bending roller Ø 84/30 mm	1 x bending roller Ø 84/30 mm
		1 x bending roller Ø 96/30 mm

Controller and operation

Standard PC with **Logic-Soft operating interface**, for the intuitive operation of all functions.

The controller consists of:

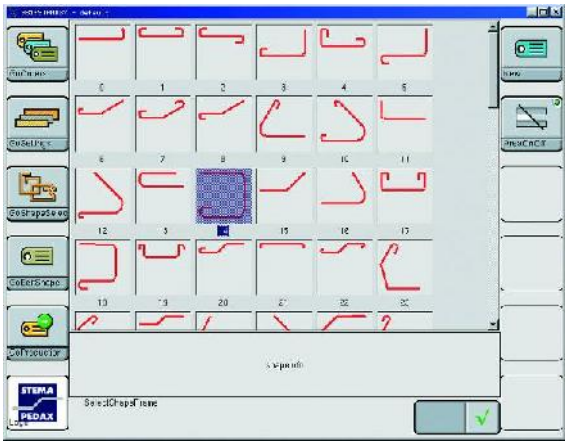
- 19” flat-screen colour monitor
- High performance processor
- Hard disk min. 120 GB
- Simple-to-operate Pedax keyboard
- RS 232 interface x 4
- Min. 2 GB RAM

Portable and fixed operating elements for all manual functions are located on the operating console.

The operating console, the manual control for all functions and the software were developed in co-operation with customers and with an industrial design company.

Standard software (included in the basic price)

Process-orientated user interface



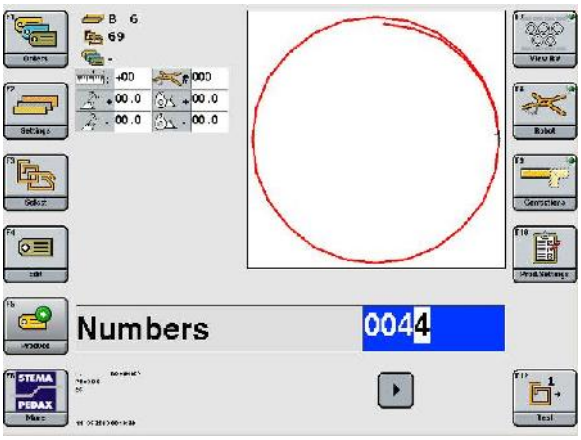
Process-orientated user interface, intuitive control. Operation is very simple and can be learned in a very short time. Operator is logically guided by clear commands – in the order of production.

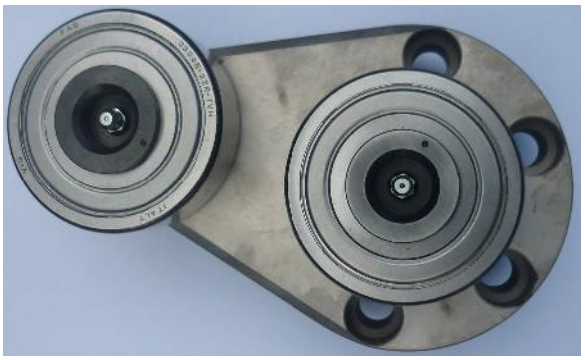
The main functions are arranged on the left-hand side of the LCD monitor, the minor functions are located on the right-hand side. There is an F-key for each function.

So that the bending shapes do not have to be changed constantly, the wire diameter selected last is always valid until a new wire diameter is set. Corrections are adopted automatically.

There is a choice of 99 bending shapes.

A diagnostic program signals errors in the electrical and mechanical systems and displays recommendations for their rectification on a monitor. Messages regarding the necessity of maintenance, such as lubrication, are also displayed on the monitor.





Special tool for the rolling of wire [ID no. 01-710].
Coil parameters are defined via an entry mask (see picture on the left side).

Technical Data

Steel grade	max. 700 N/mm²
Wire diameter	Single wire: 6-16 mm and double wire 6-12.7 mm
Feeding speed, up to	120 m/min.
Bending speed, up to	1730 degrees/sec
Bending angle	0 – 180 degrees
Weight	3,500 kg
Dimensions (L x W x H)	5750 x 1750 x 2150 mm (extended work area 2960 mm)
Operating voltage	3 x 400 V/ 50 Hz
Installed power	24 kW
Average consumption	7-10 kW
Main fuse	63 Amp.
Air pressure / average consumption	max. 8 bar / approx. 150 l/min.
Recommended compressor output	520 l/min.
Pulling force of the feeding rollers	15,000 - 22,000 N
Tolerances:	Side lengths +/- 1 mm/m Angle +/- 1 degree Bars +/- 1 mm/m
Subject to design changes.	