

N NARGESA®

TWISTING / SCROLL BENDING MACHINE

MT500A CNC

 Industry 4.0 technology



50 years
manufacturing industrial machinery



HOW IT WORKS VIDEO

Video on how the machine works

GET A QUOTE

Please complete the following form. We'll contact you in less than 24 hours.

Business days

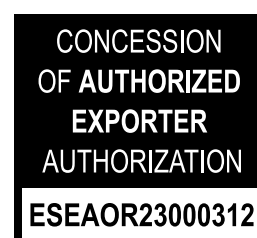
SOME OF OUR CUSTOMERS

Our customer's endorsement is our best business card



CERTIFICATES AND ACCREDITATIONS

Some of the certificates that support our processes and benefit our customers





The **MT500A CNC Twisting / Scroll Bending Machine** cold-works metal to manufacture bars, scrolls and a wide range of components for industrial and ornamental applications. **It twists square bars up to 40 mm and bends square bars up to 25 mm, and is equipped with an ESA S820 CNC control** featuring the latest **Industry 4.0 technology**. It features **two independent working areas: continuous twisting of workpieces up to 1,620 mm long and a bending station with no throat limitation**, allowing the production of large-sized components.

The ESA S820 CNC control allows operators to create, save and repeat work programs, define sequences consisting of multiple operations, and work in either manual or automatic mode. This reduces setup time between parts and ensures consistent results in series production. Interchangeable tooling also makes it easy to adapt the machine to different profiles, geometries and applications.

TECHNICAL SPECIFICATIONS

- > **Motor power:** 4kw / 5,5CV (Hp)
- > **Voltage:** 220 / 240v. Monofásica
- > **Maximum twisting capacity:** 40mm o 1 3/8"
- > **Maximum bending capacity:** 25mm o 1"
- > **Maximum flat bar twisting and bending capacity:**
50x10mm o 2"x3/8"
- > **Rotation speed:** de 0 a 10 RPM
- > **Maximum continuous twisting length:** 1.620mm
- > **Bending without throat limitation**
- > **Tooling available in mm or inches**
- > **ESA S820 CNC control**
- > **Industry 4.0 technology**
- > **ECO Mode**
- > **Programmable rotation and optimized return**

4.0⁺

Industry 4.0 Technology

The ESA S820 CNC control incorporates Industry 4.0 technology, allowing the manufacturer to remotely access the machine control within minutes for parameter adjustments, updates or technical checks.



Expert, Free and Unlimited Technical Support

We provide fully personalised technical support, free of charge and with no limits. Our technical team assists operators whenever needed, providing support on parameter settings, troubleshooting and any technical questions that may arise while operating the machine.

100%

100% Made in Spain

The MT500A CNC has been designed, manufactured, assembled and tested at our facilities in Spain. We keep machines in stock for immediate worldwide shipment upon purchase.

APPLICATIONS

The MT500A CNC Twisting / Scroll Bending Machine has been designed to perform a wide variety of cold-forming operations on bars, solid sections, tubes and flat bars.

Longitudinal bar twisting

Performs longitudinal twisting on square, round and tubular profiles, as well as round bars, handrail profiles and flat bars. It can twist up to 1,620 mm continuously and process longer workpieces by repositioning the bar.



Scrolls, spirals, coils and helical shapes

Manufacture of scrolls, spirals, springs, coils, heat exchangers, drill bits and other helical components for ornamental, architectural and industrial applications.



Rings, loops, hooks, links, chains, handles, clamps and fastening elements

Production of rings, loops, links, hooks and other metal connecting and fastening components, both as individual parts and for series production.



Baskets and forged elements

Allows the production of decorative components and forged assemblies through sequences of twisting and bending operations, for grilles, railings, gates, furniture and ornamental metalwork.



Bending of flat bars and profiles

With the corresponding optional tooling, the MT500A can bend square, round and tubular profiles, as well as round bars, handrail profiles and flat bars.



Industrial and ornamental bending

Belly-top shapes, British railings, pigtails, edge scrolls and other forms commonly used in ornamental metalwork and decorative forging.



FEATURES

The MT500A CNC combines power, robustness and advanced control to perform cold twisting and bending operations, adapting equally well to one-off components and series production with precision, repeatability and outstanding working flexibility.

 ESA S820 CNC Control and Industry 4.0 Technology

7-inch color touchscreen control for programming, storing and recalling up to 10,000 programs. It incorporates Industry 4.0 technology for technical support, diagnostics and software updates via remote connection.

 Two independent workstations

Equipped with one dedicated twisting station and one bending station, allowing both processes to be performed independently and enabling the machine to adapt to different types of work.

 Bending without throat limitations

The bending station allows parts to be processed without workpiece length being restricted by the machine throat, making it easier to manufacture large components.

 Twisting of long bars

Allows continuous twisting of up to 1,620 mm in each setup. For longer lengths, the bar can be moved and repositioned to continue working on the same workpiece.

 Automatic work sequences

Allows multiple consecutive twisting and bending operations to be programmed within the same cycle, automatically reproducing the complete sequence on every part in the production run with maximum accuracy.

 Programmable rotation and optimized return

Allows the rotation direction to be defined as clockwise or counterclockwise at each stage of the program. The CNC also selects the shortest angular path when returning to the zero position, reducing non-productive movements and waiting times.

 Special and custom tooling

Compatible with standard tooling, optional tooling and custom-made solutions for specific processes. The machine can also accommodate tooling developed by the customer using adapter discs.

** All our products are manufactured at our facilities in Spain. The hydraulic and electronic components are fully standardized and sourced from leading European brands with worldwide technical support: Rexroth, Bosch, Roquet, Schneider Electric, LG, Telemecanique, Pizzato, etc.*



ESA S820 CONTROL PANEL

The MT500A CNC Twisting / Scroll Bending Machine is equipped with an ESA S820 CNC control featuring a 7-inch color touchscreen, specifically adapted to twisting and bending operations.

Its intuitive interface makes part programming, storage and retrieval quick and straightforward, allowing work processes to be managed conveniently and accurately.

In addition to the touchscreen control, the machine is operated by means of an intuitive bidirectional joystick, providing direct control of movement in both directions.

- > Storage capacity for up to 10,000 programs.
- > Programming in inches or millimeters.
- > 7" color touchscreen with intuitive interface.
- > Bidirectional joystick for direct movement control in both directions.
- > Automatic bending angle control, programmable in degrees.
- > Possibility of creating programs with multiple consecutive twisting or bending operations.
- > Automatic program execution ensuring exact repeatability.
- > Automatic optimization of the main axis return to the zero position by selecting the shortest angular path.
- > Manual or automatic operating mode.
- > Piece counter.
- > Programming available in more than 20 languages.
- > Industry 4.0 technology.
- > On-screen alarm diagnostics.
- > Preventive maintenance alerts.
- > Machine status information displayed on screen.
- > Remote assistance for troubleshooting, parameter checking, programming support and software updates.
- > 800 × 480 pixel screen resolution.
- > 128 MB silicon disk.
- > 2 analog inputs with 12-bit resolution.
- > 16 digital inputs, 24 Vdc.
- > 16 digital outputs, 24 Vdc, 0.7 A maximum, protected against overloads and short circuits.
- > 1 RS232 serial port.
- > 1 CAN port with 9-pin female Sub-D connector.
- > 24 Vdc power supply.
- > 1 USB port.
- > 1 Ethernet port.

The new
ECOMODE
incorporated into
our latest products
helps save energy
and contribute
to environmental
protection.

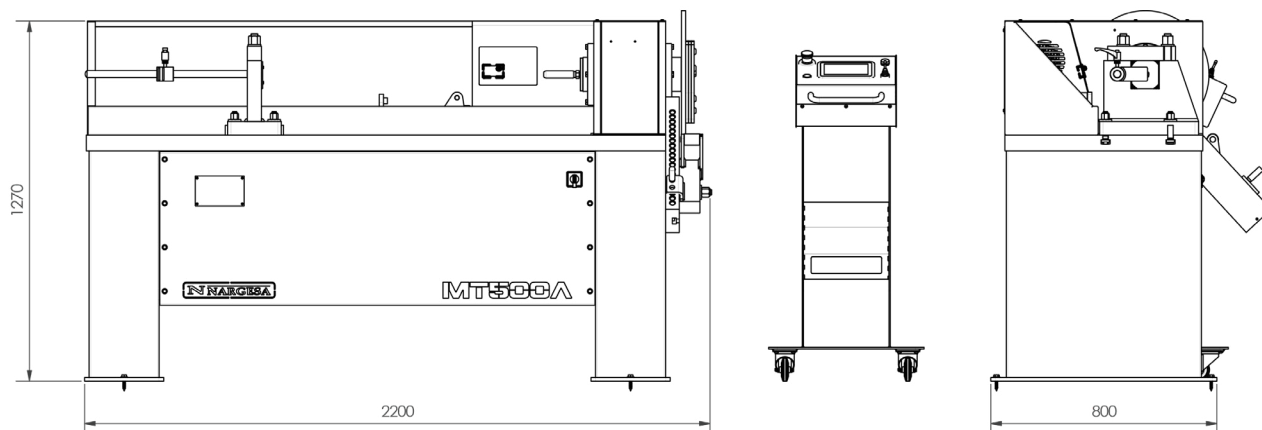
Today, energy efficiency is more important than ever. That is why our latest machinery incorporates an ECO mode that automatically switches off the electrical components with the highest power consumption when a period of inactivity is detected.

When it is time to resume production, the operator simply presses the pedal and continues working, with no additional procedures or waiting time.

A solution designed to reduce energy consumption and optimize operating costs, while moving towards more efficient and environmentally responsible production.



OVERALL DIMENSIONS



PACKAGING SPECIFICATIONS

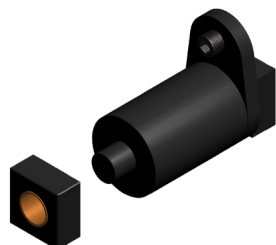
- **Tariff Code:** 84622600
- The machine is **shipped fully assembled**.
- Packaging with **ISPM 15 wooden pallet and 3-layer cardboard box suitable for sea transport**.
- **Optional:** Full ISPM 15 wooden packaging.

MT500A CNC

Width	2200 mm / 86,6"
Depth	1000 mm / 39,4"
Height	2020mm / 79'5"
Volume	4,44 m ³
Net Weight	1399 Kg / 3084,26 Lb
Gross Weight	1483 Kg / 3269,45 Lb

STANDARD ACCESSORIES SUPPLIED WITH THE MACHINE

Flat bent rings 80mm.



REF: 130-01-03-00010

- > Tooling made of steel F1140 to make rings with 80mm inner diameter either in round or square.
- > The spiral cuts and some rings could be obtained to be put between the balusters.

Ring inner diameter: 80mm.
Max capacity: round or square 16mm.

Standard tooling.



Tooling for hooks and chains



REF: 130-01-03-00165

- > Microfusion treated tooling to make all kind of bending, hooks, chains, etc.
- > It bends all kind of material.
- > Flat bar 50x10mm.
- *For different diameters please ask the manufacturers.

Maximum capacity: round or square 20mm.

Standard tooling.



Flat bar bending tooling



REF: 140-01-03-00011

- > Tooling made of treated steel to make bending operations in flat bars, handrails or any kinds of clods.
- > Bending with minimum external radios.

Maximum capacity: flat bar 50x10mm.
Weight: 3,1 kg.

Standard tooling.



Spiral tooling diameter 120mm



REF: 120-01-03-00117

> Tooling made of treated steel F1140 to make the second operation of the spiral in flat bar, square or round maximum 10mm thickness.

Scroll external diameter: 120mm.
Max. Capacity: 40x8mm.

Standard tooling.



Spiral tooling diameter 220mm



REF: 130-01-03-00172

> Tooling made of steel F1140 to make the second operation of the spiral in flat bar, square or round maximum 16mm thickness.

Scroll external diameter: 220mm.
Maximum Capacity: 40x10mm.

Standard tooling.



Spiral tooling diameter 450mm



REF:130-01-03-00171

> Tooling made of steel F1140 to make the second operation of the spiral in flat bar, square or round maximum 25mm thickness.

Scroll external diameter: 450mm.
Maximum Capacity: 50x10mm.

Standard tooling.



Tooling for spiral start diameter 100mm

REF: 120-01-03-00116



> Tooling made of treated steel F1140 to make the start of the spiral in flat bar, square or round, 16mm maximum thickness.

Volute external diameter: 100mm.

Maximum Capacity: 40x10mm.

Standard tooling.



Tooling to make spiral start diameter 180mm

REF:120-01-03-000153



> Tooling made of treated steel F1140 to make the start of the spiral in flat bar, square or round, maximum 25mm thickness.

Volute external diameter: 180mm.

Maximum capacity: 50x10mm.

Standard tooling.



Tooling to make the spiral start diameter 80mm

REF: 120-01-03-00115



> Tooling made of treated steel F1140 to make the start of the spiral in flat bar, square or round maximum 10mm thickness.

Volute external diameter: 80mm.

Maximum capacity: 40x8mm.

Standard tooling.



Tooling to make scrolls on square bars 12 and 35mm or 1/4" and 1 1/2" inches whitworth



Units per machine: 2

> Tooling made of treated steel 140 to make the scrolling on square bars 12x12mm and 35x35mm or 1/4x1/4" and 1 1/2"x1 1/2" Inches Whitworth, on conventional mild steel.

REF: 120-01-03-00123 (12x12mm and 35x35mm)

REF: 125-01-03-00100 (1/4x1/4" and 1 1/2"x1 1/2" Inches Whitworth)

Standard tooling.



Tooling to twist square 14 and 30mm or 3/8" and 1 1/4" inch whitworth



Units per machine: 2

> Tooling made of treated steel F1140 to make twisting operations in square 14x14mm and 30x30mm or 3/8"x3/8" and 1 1/4"x1 1/4" inches Whitworth, in Carbon coal.

REF: 120-01-03-00124 (14x14mm and 30x30mm)

REF: 125-01-03-00101 (3/8"x3/8" and 1 1/4"x1 1/4" inches Whitworth).

Standard tooling.



Tooling to twist square 16 and 25mm or 1" and 1/2" inches Whitworth



Units per machine: 2

> Tooling made of treated steel F1140 to make the twisting for 16x16mm square bar and 25x25mm or 1"x1" and 1/2"x1/2" inches Whitworth, in conventional carbon steel.

REF: 120-01-03-00125 (16x16mm and 25x25mm).

REF: 125-01-03-00102 (1"x1" and 1/2"x1/2" inches Whitworth).

Standard tooling.



Tooling to scroll 18 and 20mm square bar or 3/4" and 5/8" inches whitworth

Units per machine: 2



> Tooling made of treated steel F1140 to make twisting in 18x18mm and 20x20mm square bar or 3/4"x3/4" and 5/8x5/8" inches Whitworth, in conventional carbon steel.

REF: 120-01-03-00127 (18x18mm and 20x20mm)

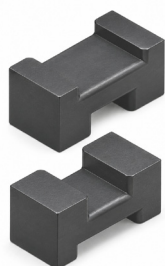
REF: 125-01-03-00103 (3/4x3/4" and 5/8x5/8" inches Whitworth)

Standard tooling.



Tooling for scrolling 40mm square and flat bar 50x10 mm or 1 3/4" and 2"x3/8" inches whitworth

Units per machine: 2



> Tooling made of treated steel F1140 to make the scrolling in 40x40mm square bar and 50x10mm flat bar or 1 3/4"x1 3/4" and 2"x3/8" inches Whitworth, in conventional carbon steel.

REF: 120-01-03-00126 (40x40mm y 50x10mm)

REF: 125-01-03-00104 (1 3/4"x1 3/4" y 2"x3/8" inches Whitworth)

Standard tooling.



OPTIONAL ACCESSORIES

Belly top railing tooling diameter 225mm

REF: 140-01-03-00003



> Tooling to make the belly top railing styles, very used in balconies and windows.

Optional tooling.



Inner diameter	Maximum capacity	Weight
225mm	16mm round or square.	12 Kg.

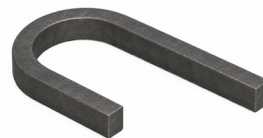
Flat bent rings, inner diameter 96,100,110mm



REF: 140-01-03-00005

> Tooling made of steel to make bending operations in square and round bars and the so called British Rail.

Optional tooling.



Inner diameter	Maximum capacity	Weight
96,100,110mm	16mm round or square.	10 Kg.

Edge scroll tooling



REF: 140-01-03-00006

> Tooling made of treated steel to make volutes or spirals on its edge in order to give it a different aspect, very used in some specific countries.

Maximum capacity: round or square 25mm.

Weight: 0,400 kg.

Optional tooling.



Baskets tooling



REF: 140-01-03-00012

> Tooling to make all kinds of ornamental baskets in different sizes in square or round.

> Available tooling for millimeter and inch square sizes

Maximum capacity: 4 square or round bars of 12mm.

Weight: 55kg.

Optional tooling.

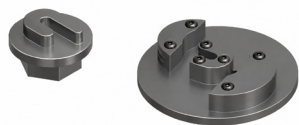
Instructions book. Millimetres

Instructions book. Inches



Oval scrolls tooling

REF: 140-01-03-00004



> Tooling made of steel to make oval scrolls for all kinds of rails.



Optional tooling.

Units per tooling	External diameter	Maximum capacity	Weight
2	240x190mm	16 mm square or round	11 Kg.

Bent pipe in fixed radius

REF: 140-01-03-00002



> Tooling made of steel to make bents in adjustable and fixed radius and different degrees.



Optional tooling.

Pipe max. diameter	Min. pipe thickness	Radius of the piece	Degrees	Weight
40mm	3mm	3 times the pipe diameter.	Maximum 180°	15 to 35 Kg.

Double eyed tooling

REF: 140-01-03-00001



> Tooling to make the folding commonly called "pig's tail" it's very used in balconies, handrails and many ornamental utilities.



Optional tooling.

Pieces per tooling	Double eye	Capacidad máxima	Weight
7	To the right , to the left and double.	16mm Round.	35 Kg.

+info MT150A

- > Maximum twisting Capacity: 20 mm o 3/4" inch
- > Maximum bending capacity: 16 mm o 5/8" de inch.
- > Maximum scrolling and bending capacity in flat bar, clod or handrail: 35x10 mm or 1 1/4"x3/8" inches.
- > Maximum continuous twisting length: 960 mm.
- > Adjustable rotation speed from 0 a 9 R.P.M.



+info MT500A CNC

- > CNC ESA S820 Control
- > Maximum twisting Capacity 40 mm or 1 3/8" inches.
- > Maximum bending capacity: 25 mm or 1" inch
- > Maximum scrolling and bending capacity in flat bar, clod or handrail 50x10 mm or 2"x 3/8" inches.
- > Maximum continuous twisting length: 1.620 mm.
- > Adjustable rotation speed from 0 to 10 r.p.m.



OUR RANGE OF MACHINERY



+info IRON WORKERS



+info NON-MANDREL PIPE BENDER



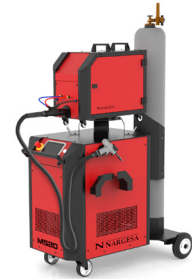
+info HORIZONTAL PRESS BRAKES



+info SECTION BENDING MACHINES



+info CNC SECTION BENDING MACHINES



+info LASER WELDING EQUIPMENT



+info TWISTING/SCROLL BENDING MACHINES



+info HYDRAULIC PRESS BRAKES



+info HYDRAULIC SHEAR MACHINES



+info GAS FORGES



+info IRON EMBOSSING MACHINES



+info END WROUGHT IRON MACHINES



+info BROACHING MACHINES



+info POWER HAMMERS



+info BLACKSMITH FORGING PRESS

WARRANTY

Nargesa machines have 3 years warranty provided that the customer registers it in our website. Otherwise it would be only one year warranty. This one encloses any manufacturing default all along these 3 years for components. Any misuse is excluded from this condition. Labor, back and forth shipping and any eventual repair, are not included in this warranty.

Partner companies



SHIPMENT EVERYWHERE

Nargesa will arrange transport up to final destination, whenever the customers asks for so. There is also the possibility for the customer to arrange the shipment himself with his own agency.

TECHNICAL ASSISTANCE

All our customers have access to technical support quickly and efficiently. 90% of incidences are solved out on the phone, mail, Skype or videoconferencing in less than 24hours. In case of needing presencial technical assistance, we may as well send a technician to the customer's facilities.

Follow us on

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This information might undergo changes