



CNC HYDRAULIC PRESS BRAKE

MP3160CNC

 4.0 Technology



OPERATION VIDEO

Video of the machine in operation

REQUEST ADJUSTED QUOTATION

Please fill up the following form. We will contact you in less than 24 hours.

Working days.

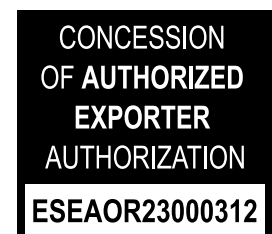
SOME OF OUR CUSTOMERS

Our customer's endorsement is our best business card



CERTIFICATES AND ACCREDITATIONS

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



NARGESA HYDRAULIC PRESS BRAKES

The new generation of Nargesa CNC hydraulic press brakes takes sheet metalworking to a new level, offering outstanding efficiency and precision. With a chassis of welded, stabilized and machined steel, external design featuring stripped-down lines for a solid appearance, and improved structural calculations, these new hydraulic press brakes set themselves up as the new cornerstone for the sheet metalwork industry.

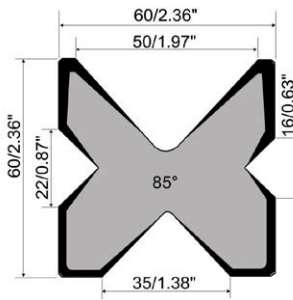
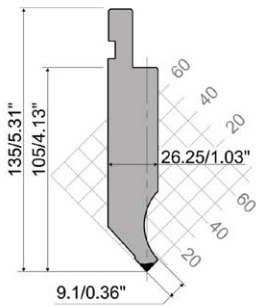
Fitted with high-specification CNC control, the operation of these complex machines is now easier and more intuitive than ever before. Its colour, high-resolution touch screen graphics interface and powerful CPU enable the most complicated bending operations to be processed effortlessly and sophisticated algorithms to be calculated in mere microseconds, so you get the highest performance out of these pieces of engineering excellence.

Among the elements that make the new Nargesa CNC hydraulic press brakes ideal for the sheet metalwork industry, we highlight the following: the adaptive electronic pressure control system which ensures the force required for each operation; the chassis bending electronic compensator which gives optimum bending precision with different sheet metal lengths; the micrometric resolution optical encoder which permits perfect positioning of the vertical axis of bending; the sophisticated electronic compensation system for hydraulic oil temperature, which can be configured using software to offer repeat bending at different working temperatures; the self-monitoring safety hydraulic system contained in a single unit which provides manometer pressure information at all times with optics indication of the status of valves and sensors, transmitting movement to the vertical bending axis ensuring precision to within 0.01mm, and a servo motor driven back gauge with maximum precision recirculating ball screw guide which reduces X and R axis positioning error to less than 0.05 mm and the option for manual adjustment of the Z axis; and 2.0 connectivity for seamless LAN integration of machines via a 10/100 Mbit Ethernet connection for the remote control, management, diagnosis and update of machines. A full range of specifications designed to provide maximum performance using technological components of the highest quality to make the operator's job easier.

** All our products are manufactured in our facilities in Spain. The hydraulic and electronic components are completely standard and of the best European first order brands, with technical service all over the world: Rexroth, Bosch, Roquet, Hawe, Schneider Electric, LG, Telemecanique, Pizzato...*

STANDARD EQUIPMENT INCLUDED

- Automatic control of vertical bending axis (Y axis).
- Back gauge fitted with BOSCH REXROTH recirculating ball screw guides, ESA servo motor automatic control of horizontal axis (X axis), manual control of vertical axis (R axis) and manual control of transverse axis (Z axis) with parallel alignment and curvature adjustment.
- Promecam punch clamping system with segmented flanges.
- Euro Promecam/WILA system with automatic compensation table.
- Promecam punch, reference PS.135.85.R08, Induction tempered in working and grinding zones.
- Promecam die, reference M.460.R, Induction tempered in working and grinding zones.
- ESA numerical control, reference S840W.
- Adaptive electronic pressure control.
- Chassis bending electronic compensator.
- GIVI MISURE high-precision optical encoder, 0.005 mm resolution.
- HAWE synchronized hydraulic unit with 24 VDC redundant safety valves with optics and pressure indication.
- Electronic compensation of hydraulic oil temperature.
- Front arms which slide on linear recirculating ball screw guides for optimum sheet metal grip.
- Side doors with electronic safety control.
- Access to the rear through sliding doors with electronic security control.
- High-frequency laser sensor system unaffected by external light sources.
- Software-configured electronic muting system.
- Directional LED bars for illumination of the folding area and the inner area of the stopper.
- Ethernet 10/100 Mbit LAN connectivity.
- USB 2.0 ports and VGA connector for updates, backup and peripherals.
- 15" colour touchscreen graphics interface, high-resolution, multi-language (over 20 languages).
- Basic software installed in the CNC control containing a full library of Promecam punches and dies, and for creating, modifying and editing bending programs in numerical mode, which can be enlarged with additional software modules.
- Complete software for Windows PC with bending simulator and CNC optimiser for 2-D graphics programming of bending sequence, with full library of Promecam punches and dies.



Standard punch and die

Nargesa press brakes models are equipped with the standard punch PS.135.85.R08 Ref. Promecam and the standard die M.460.R.

Material type: C45

Mechanical resistance: 560 - 710 N/mm²

Hardness: 54 - 60 HRC

Length MP1500CNC: 835 + 670 mm / 32,87" + 26,38"

Length MP3160CNC: 835 + 835 + 835 + 595 mm / 32,87" + 32,87" + 32,87" + 23,42"

Sliding arms

The front sliding arms with a linear recirculating ball bearing guide provide optimum support for the sheet to be folded and are fully manually adjustable, both horizontally and vertically.



Structure

The high-precision welded, stabilised and machined steel chassis has been designed to eliminate any types of stress.



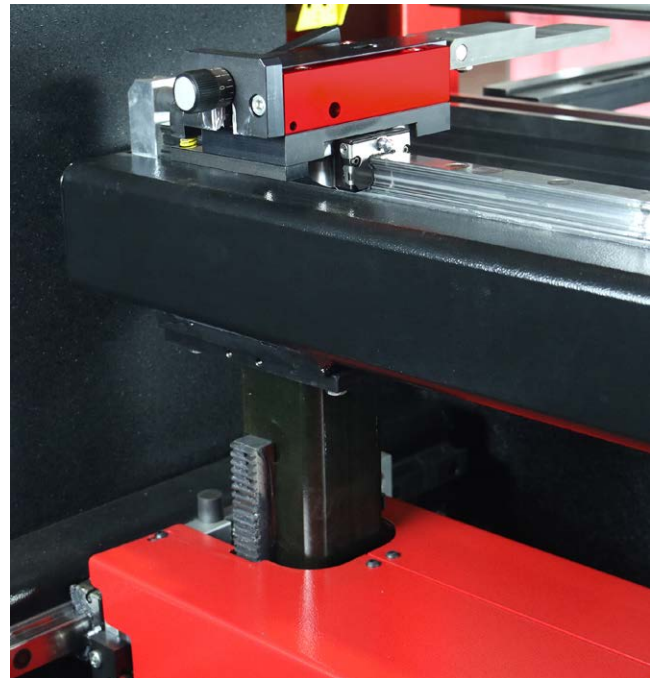
S-bend

The S-bend included in the hydraulic press brake design enables complex pieces to be produced, facilitating bending at both ends of the machine.



LED Lighting

The incorporation of directional LED light bars for illumination of the folding and stop areas allows the user to work in the best visibility conditions.



Back gauge

The back gauge is fitted with ESA servo motors and precision BOSCH REXROTH recirculating ball screw guides which permit automatic positioning of X and R axes with 0.05 mm precision. It also has a manual adjustment system for the Z axis which enables the gauge callipers to be slid easily along a guide with recirculating ball screw system.

The parallel alignment of the gauge callipers with the press brake punch holder plate is adjusted manually using micrometers to ensure maximum precision. In addition there is a mechanical offset system for Z axis curvature so that deviations can be corrected.

- High speed measurement search: 565 mm/s 22,24"/s
- Servo motor 1 Nm a 5000 rpm.
- Back gauge displacement 600 + 100 mm. 23,62" + 3,94"





Laser sensor

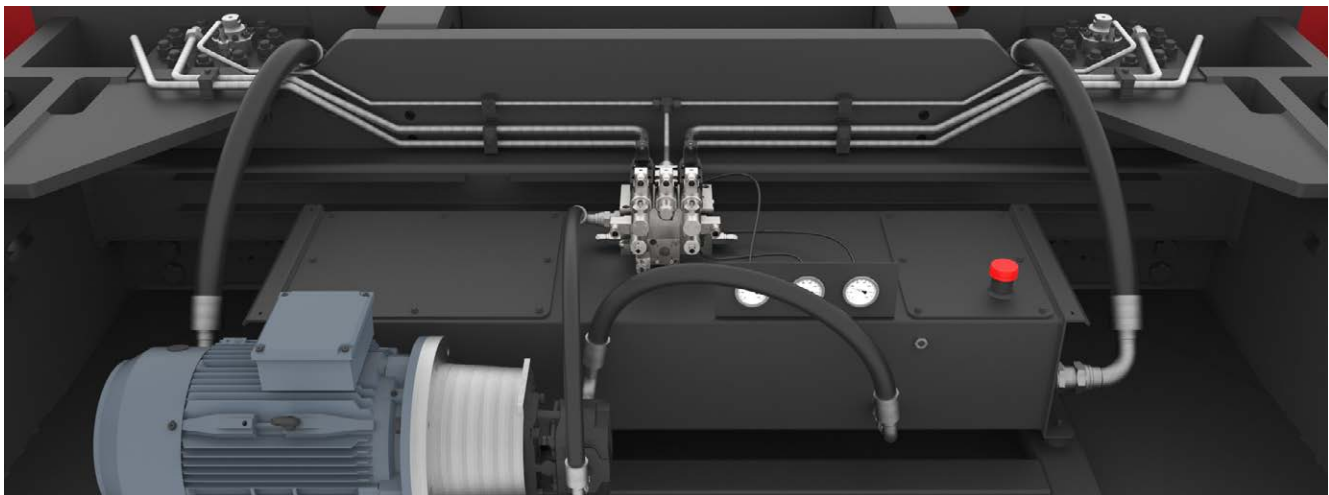
The laser sensor system built in to the press brake has a metric guide to facilitate vertical adjustment and can easily be lifted up and removed when work tools (punches and dies) need changing.

The system includes two electronically controlled high-frequency laser emitters and receivers which are able to recognise and ignore any external light source and are thus protected from interference by any other lighting, whether natural or artificial.

In addition, for complex bending operations on sheet metal with protruding areas which prevent the piece

from being produced in the normal way, the laser sensor can be disabled by means of a push-button on the front of the machine which causes the press brake to operate at low speed.

Moreover, the inclusion of electronic muting enables the laser sensor sweep extremities to be replaced with a novel parameterised system, where CNC control software controls the activation position of muting automatically at all times in relation to punch size and sheet metal thickness.



Hydraulic unit

Centralising all the hydraulic components in a single unit improves their maintenance and management, giving a self-monitoring, redundant hydraulic system which provides working pressure information at all times by means of a manometer, and optics indication of the status of valves and sensors.

In addition to the mechanical pressure limiter, electromagnetic safety valve and electromagnetic control valves for raising and lowering the punch holder plate, the hydraulic unit is fitted with

proportional servo valves; some are responsible for dynamically regulating the pressure, depending on the requirements of each fold, and others are responsible for managing the speed of the vertical folding axis to guarantee maximum working precision at all times. The electromagnetic valves are controlled at 24 VDC and have an LED light indicating activation status and an inductive position sensor with LED light for safety control.



Promecam punch clamping system

The Promecam-type punch clamping system features segmented, removable, quick-locking flanges that are adjustable with front-mounted screws.

The Euro Promecam/WILA system, using an automatic compensation table, allows for rapid die changes without the need for tools.



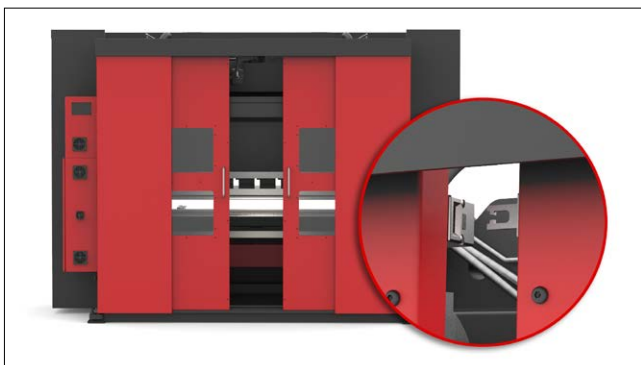
Precision bending

For maximum bending precision a GIVI MISURE high-resolution (0.005 mm) optical encoder is used, which controls the vertical position of the bending axis (Y axis) for excellent reliability in each operation. Combined with control of lowering speed, this ensures punch holder plate vertical axis precision for bending operations and gives positioning error of less than 0.01 mm.



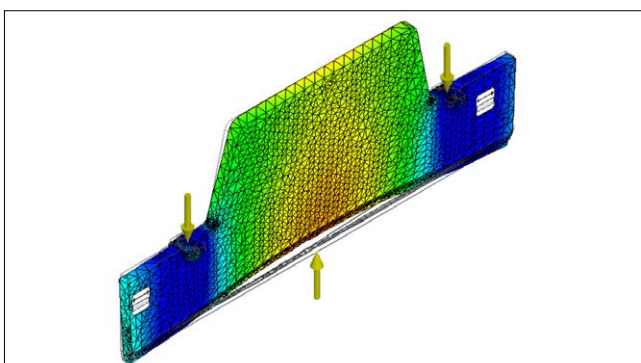
Side doors

The side doors of the hydraulic press brake have an electronic safety control device to manage their position and give information to user at all times via on screen messages, and offer a large opening angle which makes it easier to change punches and dies whenever necessary. In addition, their design combines steel plate with a methacrylate viewing window so precision bending operations can be inspected in complete safety.



Sliding Rear Doors

The sliding rear doors allow us to optimize the space around the folder, allowing us to minimize the free space at the rear for access to the interior if necessary. The sliding doors are electronically controlled.



Automatic Compensation Table

Automatically corrects variations in part length during the bending process, counteracting slight bending in the press brake that affects uniform punch penetration into the die. It uses advanced measurement and control systems, precise sensors, and advanced software to ensure consistent bend angles and precise adjustments along the entire length of the sheet metal.



CNC CONTROL

The powerful ESA S840W CNC control system has outstanding processing capacity which permits up to four axes to be managed, interpolated in any combination Y, X, R and Z, providing solutions for the most complex bending operations, and a flash memory for 5000 programs and a full library of Promecam punches and dies.

CNC control is the core which runs all the systems and which now includes, amongst other innovative solutions, the adaptive electronic pressure control which calculates the force required for each operation and thus lengthens the life cycle of punches and dies; the electronic chassis bending compensator which plays a part in optimising bending precision with different lengths of sheet metal; and the efficient electronic system for hydraulic oil temperature compensation, permitting repeat bending operations to be performed at different working temperatures.

The 15" high-resolution (1024 x 600 pixels) colour graphics touch screen responds efficiently to user operations and provides clear and detailed information at all times. It enables programs to be edited graphically or numerically, new dies and punches to be managed,

edited and added to existing libraries, bending sequences to be controlled, bending collisions to be controlled, bending simulations to be done, sheet metalwork to be calculated and machine sensors and inputs/outputs to be diagnosed in an intuitive and straightforward manner. Moreover it offers 20+ display language options, so the requirements of the majority of users are covered.

In terms of connectivity, the CNC ESA S840W control turns the new Nargesa CNC hydraulic press brakes into just another item of equipment in the company LAN thanks to the Ethernet 10/100 Mbit port which enables remote control, management, software updates and diagnosis to be performed. In addition, USB 2.0 ports and a VGA connector allow CNC software to be updated locally and external peripherals to be connected, such as backup units, QWERTY keyboards, mouse or external display screen.

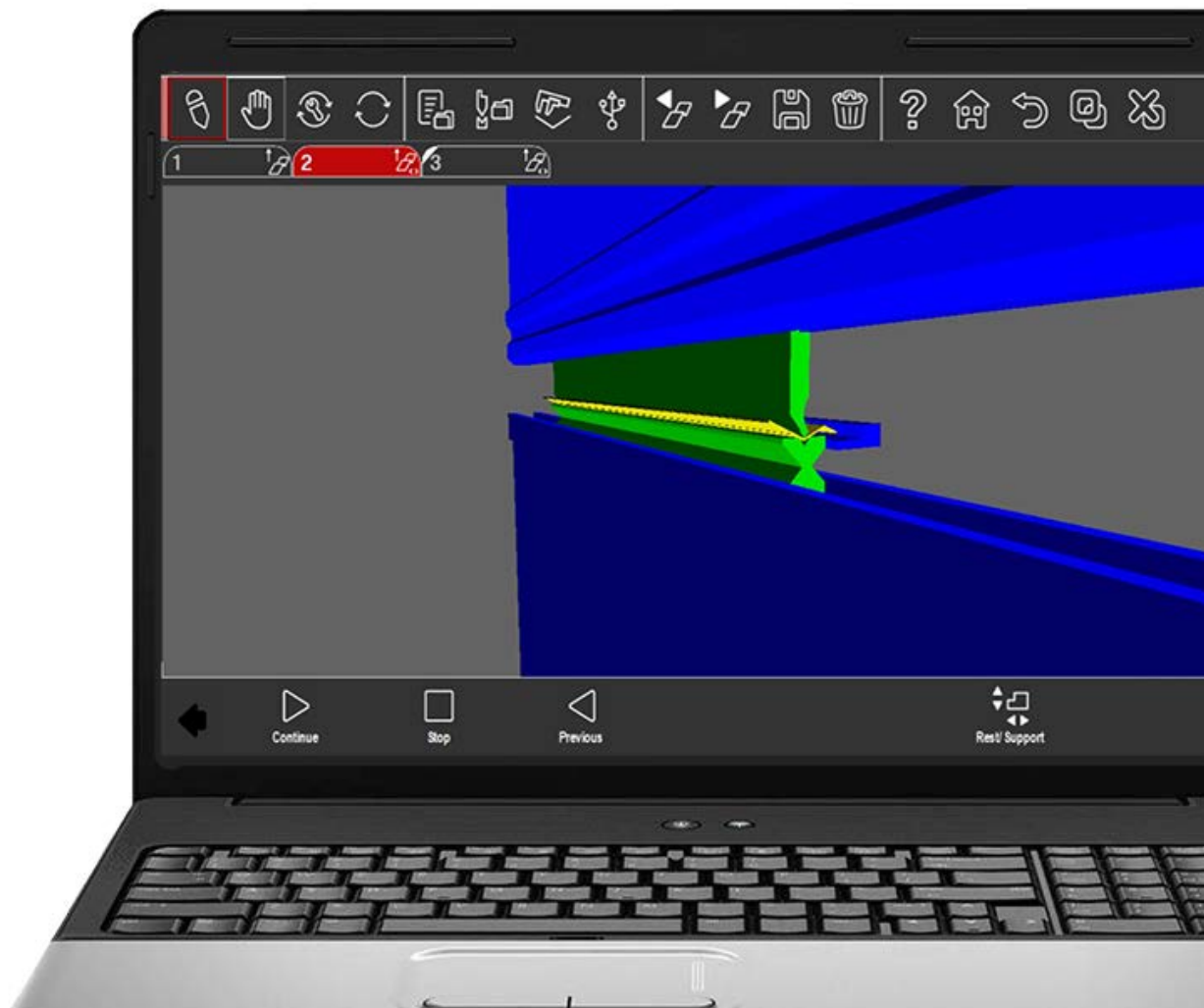
Sheet metalwork and bending sequence calculations

The complex algorithms processed by the CNC control enable the total worked length of the sheet metal to be obtained accurately according to the bending program. Furthermore, bending sequence management makes it possible to select the most suitable option for producing each piece, ensuring greatest ease for user who also has invaluable help in the form of the efficient 2-D visual bending simulator, which displays the positioning of the sheet metal in the press brake during each stage of the process, in addition to graphics display of the progress of different bending operations being performed.

Naturally, the CNC control also takes care of running collisions calculation at all times, thus providing precise indication of any potential collision problem between the sheet metal to be bent, the punch and dies used, and the structure of the machine.

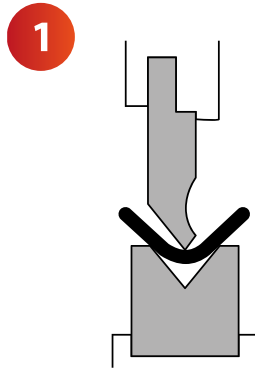
PC software

CNC ESA S840W control software can also be installed on any computer running the current version of the Windows operating system and has the same interface as the machine, thus minimising the time required to become familiar with how it works and permitting two-way export of programs and tools between PC and machine.

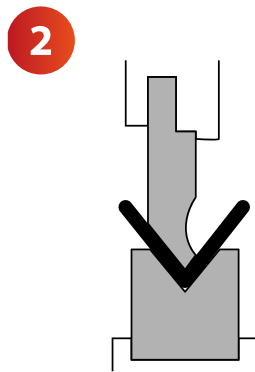


TYPES OF BENDING

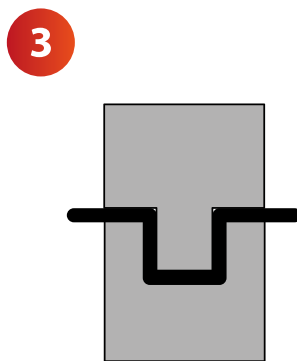
CNC control also provides precise management of different types of bending, such as:



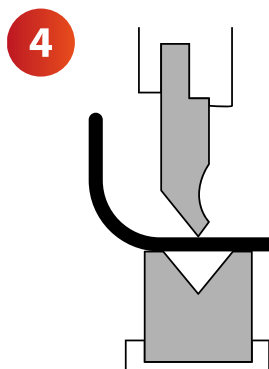
1. Air bending: where the sheet metal being bent with the punch does not reach the very bottom of the die. This enables different bending angles to be obtained using the same tools, which requires extreme precision to guarantee a perfect result.



2. Bottoming: the punch forces the sheet metal to the very bottom of the die. The bending angle obtained depends on the tools used.



3. Stamping: the sheet metal can be folded upon itself to give higher strength in specific areas.



4. Roller pressing: this enables different curve radii to be obtained in a sheet by means of subjecting it to multiple bending sequences.

DETAILED FEATURES























MP1500CNC

Tension 230/400 V
 Dimensions 2110x1880x2210 mm
 83,07" x 74,02" x 87,01"
 Weight 4.900 Kg.
 10.803 lb.

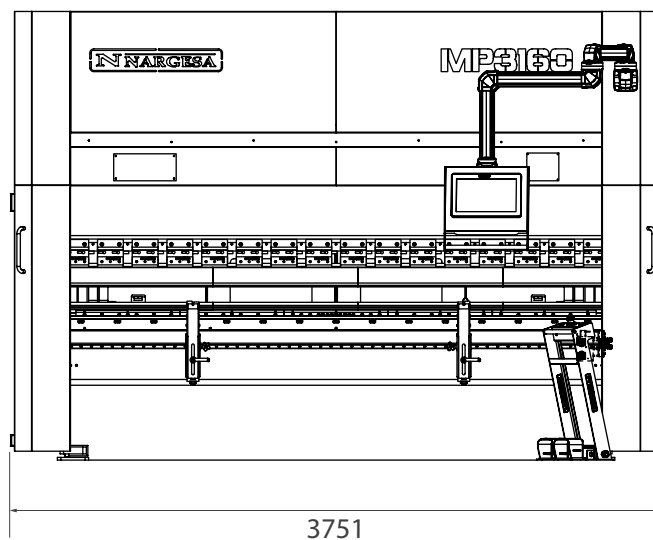
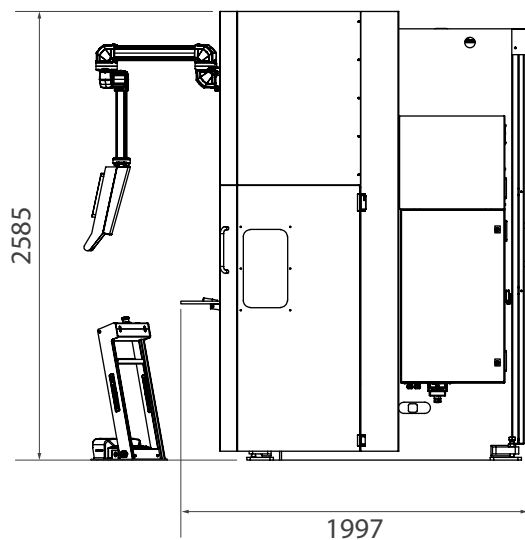


MP3160CNC

Tension 230/400 V
 Dimensions 3751x1997x2585 mm
 147,68" x 78,62" x 101,77"
 Weight 11.900 Kg.
 26.235 lb.

Engine Power (Kw)		5,5Kw	
		15Kw	
Hydraulic power (Tn)		40Tn	
		160Tn	
Max. Punch displacement (mm)		200mm	7,87"
		220mm	8,66"
Inner folding length (mm)		1250mm	49,21"
		2630mm	103,54"
Total folding length (mm)		1500mm	59,06"
		3100mm	122,05"
Back gauge displacement (mm)		600+100mm	23,62"+3,94"
		600+100mm	23,62"+3,94"
S-bend (mm)		195mm	7,68"
		400mm	15,75"
Punch working speed (mm/s)		8,3mm/s	0,33"/s
		9mm/s	0,35"/s
Return speed of the punch (mm/s)		120mm/s	4,72"/s
		97mm/s	3,82"/s
Lowering speed of the punch (mm/s)		200mm/s	7,87"/s
		200mm/s	7,87"/s

EXTERNAL DIMENSIONS



CHARACTERISTICS OF THE PACKAGING

- Tariff Item Code: 84622300
- The machine is delivered completely assembled.
- Packing with retractile film.
- Optional: Complete wooden packing NIMF15.

MP3160CNC

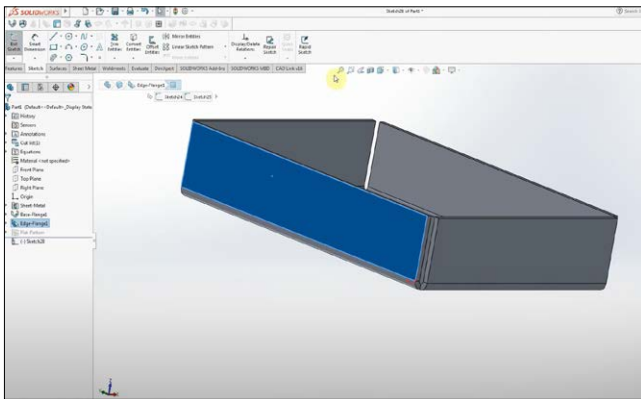
Ancho	3751 mm. 147,68"
Fondo	1697 mm. 66,81"
Alto	2585 mm. 101,77"
Volumen	16,45 m ³ 581,29 ft ³
Peso Neto	11.900 Kg. 26.235lb
Peso Bruto	12.000 Kg. 26.455,47lb

OPTIONAL TOOLING |



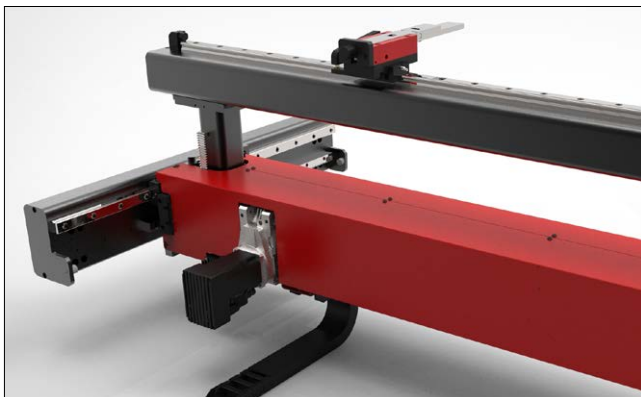
Graphics and bend calculation in CNC

Optional installation in the basic CNC control of software modules with bending simulator and CNC optimizer for the creation of 2-D graphics of bending program with the most efficient sequence.



Software ESA3D BEND

ESA3D BEND is a powerful programming and simulation application for Nargesa CNC bending machines. It allows you to import 3D CAD designs (IGES, STEP, DXF, DWG), calculate tools and bending sequences, simulate in 3D to avoid collisions, and generate NC programs. It offers automatic and manual setups, retraction calculations, stop positioning, and detailed reports.



Motorised R axis

Motorised vertical axis (R axis) of back gauge, controlled by ESA servo motor, with the features described below:

- High speed positioning: 130 mm/sec.
- High precision recirculating ball screw guides.
- Servo motor with 1 Nm torque at 5000 rpm.
- Maximum displacement of axis: 150 mm.
- Mechanical precision: 0.05 mm.



Z1-Z2 axis Available if you have chosen R Axis and Graphics and CNC Bending Calculation.

The Z1-Z2 axis enables us to optimize the set up time of the machine. The CNC optimizes the position of gauges Z1 and Z2 according to the dimensions of the piece and the position of the tools.

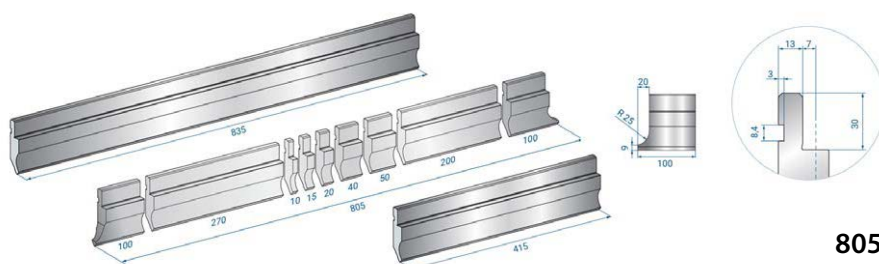
- High search speed of size: 400mm / sec
- Linear guides for recirculation of high precision balls
- 1 Nm to 5000 rpm servo motors.
- Stroke axis Z1, Z2: 2600 mm.
- Mechanical precision: 0.05 mm.

All accessories for Nargesa Press Brakes are manufactured according to international standards. Therefore, guaranteeing high resilience and tensile strength.

Materia Type	Mechanical resistance of the material and the tool body	Hardness of the material and the tool body	Hardness of the operating surfaces after induction hardening
● C45	560 - 710 N/mm2	12 - 15.5 HRC	54 - 60 HRC

Punches

For different sizes, please ask the manufacturer.



805 mm segmented

100, 370, 10, 15, 20, 40, 50, 100, 100 mm

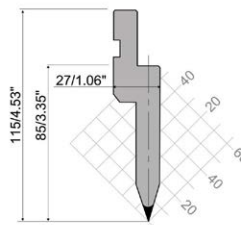
*Conversion millimeters /inches:

415 mm / 16,34"

805 mm / 31,69"

835 mm / 32,87"

● PU.85.35.R08 - 1034



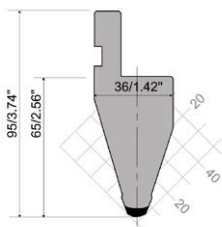
Length

835 mm.

415 mm.

805 mm. Seg.

● P.95.35.R5



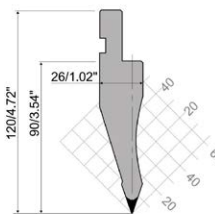
Length

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415 mm.

805 mm. Seg.

● P.120.35.R08 - 1047



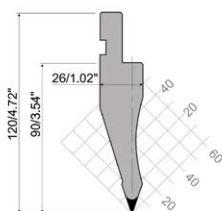
Length

835 mm.

415 mm.

805 mm. Seg.

● P.120.35.R15 - 1282



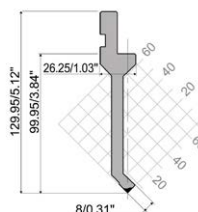
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805 mm. Seg.

● P.130.85.R025 - 1262 MOD85°



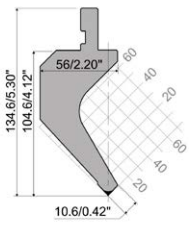
Length

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415 mm.

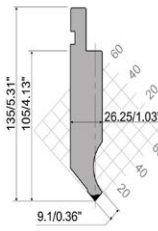
805 mm. Seg.

● PK.135.85.R08 - 1172



Length
835 mm.
415 mm.
805 mm. Seg.

● PS.135.85.R08 - 1281

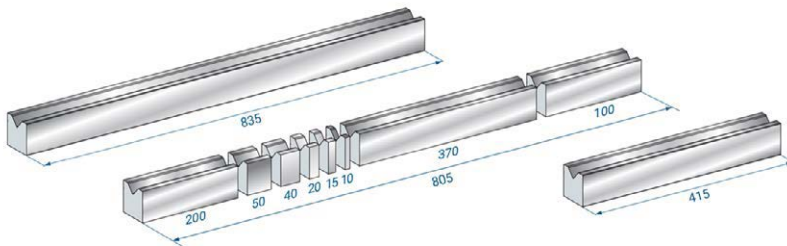


Length
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415 mm.
805 mm. Seg.

Dies

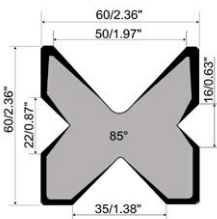
For different sizes, please ask the manufacturer.

Material Type	Mechanical resistance of the material and the tool body	Hardness of the material and the tool body	Hardness of the operating surfaces after induction hardening
● C45	560 - 710 N/mm2	12 - 15.5 HRC	54 - 60 HRC



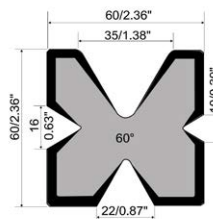
805 mm segmented
100, 370, 10, 15, 20, 40, 50, 200 mm

● M.460.R - 2067



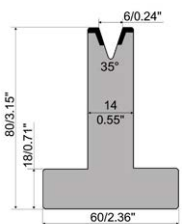
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805 mm. Seg.

● M.460.60 - 2034



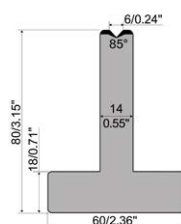
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● T80.06.35



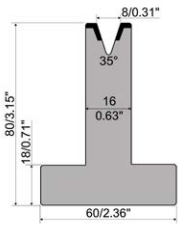
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805 mm. Seg.

● T80.06.85 - 3086



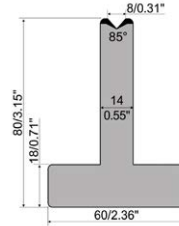
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● T80.08.35



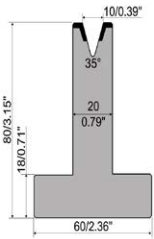
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805 mm. Seg.

● T80.08.85 - 3087



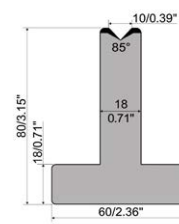
Length
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415 mm.
805 mm. Seg.

● T80.10.35



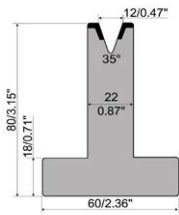
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● T80.10.85 - 3088



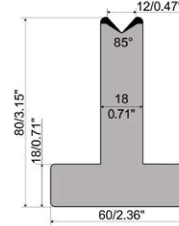
Length
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● T80.12.35



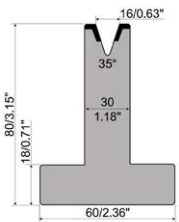
Length
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415 mm.
805 mm. Seg.

● T80.12.85 - 3089



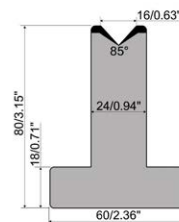
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805 mm. Seg.

● T80.16.35



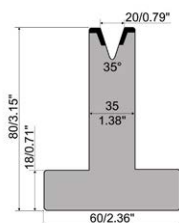
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415 mm.
805 mm. Seg.

● T80.16.85 - 3090



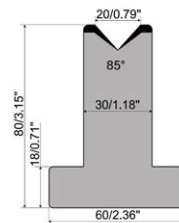
Length
835 mm.
415 mm.
805 mm. Seg.

● T80.20.35



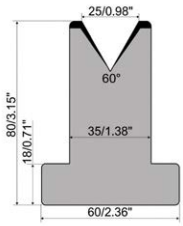
Length
835 mm.
415 mm.
805 mm. Seg.

● T80.20.85 - 3091



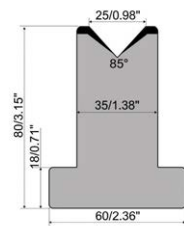
Length
835 mm.
415 mm.
805 mm. Seg.

● T80.25.35



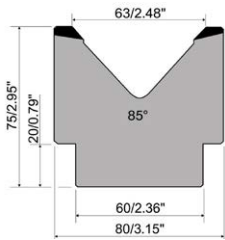
Length
835 mm.
415 mm.
805 mm. Seg.

● T80.25.85 - 3092



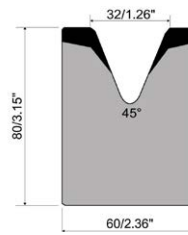
Length
835 mm.
415 mm.
805 mm. Seg.

● M75.85.63 - 2023



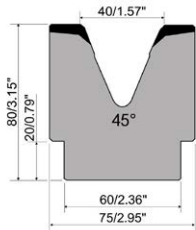
Length
835 mm.
415 mm.
805 mm. Seg.

● M80.45.32 - 2088



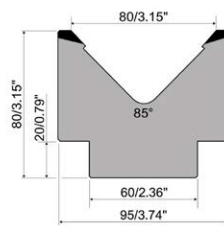
Length
835 mm.
415 mm.
805 mm. Seg.

● M80.45.40 - 2081



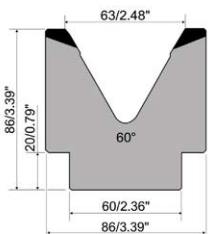
Length
835 mm.
415 mm.
805 mm. Seg.

● M80.85.80 - 2024



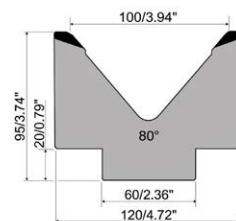
Length
835 mm.
415 mm.
805 mm. Seg.

● M86.60.63 - 2083



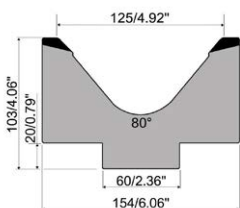
Length
835 mm.
415 mm.
805 mm. Seg.

● M95.80.100 - 2025



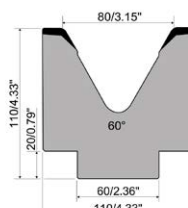
Length
835 mm.
415 mm.
805 mm. Seg.

● MK103.80.125 - 2026



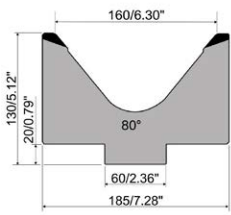
Length
835 mm.
415 mm.
805 mm. Seg.

● M110.60.80 - 2089



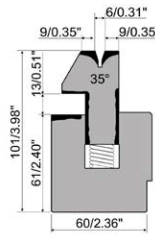
Length
835 mm.
415 mm.
805 mm. Seg.

● MK130.80.160 - 2027



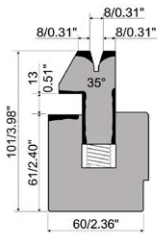
Length
835 mm.
415 mm.
805 mm. Seg.

● S101.35.06



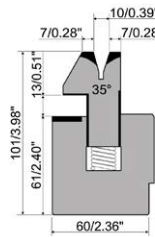
Length
835 mm.
415 mm.

● S101.35.08



Length
835 mm.
415 mm.

● S101.35.10



Length
835 mm.
415 mm.

MP1500CNC

- > Punch working speed:: 8,3 mm/s. 0,33" /s.
- > Return speed of the punch: 120 mm/s. 4,72" /s.
- > Lowering speed of the punch: 200 mm/s. 7,87" /s.
- > Maximum punch displacement: 200 mm. 7,87"
- > Inner folding length: 1250 mm. 49,21"
- > Total folding length: 1500 mm. 59,06"
- > Back gauge displacement: 600+100mm. 23,62" +3,94"
- > Neck: 270 mm. 10,63"



MP3160CNC

- > Punch working speed:: 9 mm/s. 0,35" /s.
- > Return speed of the punch: 97 mm/s. 3,82" /s.
- > Lowering speed of the punch: 200 mm/s. 7,87" /s.
- > Maximum punch displacement: 220 mm. 8,66"
- > Free distance table/slice: 445 mm. 17,52"
- > Inner folding length: 2630 mm. 103,54"
- > Total folding length: 3100 mm. 122,05"
- > Back gauge displacement: 600+100 mm. 23,62" + 3,94"
- > Neck: 400mm. 15,75"



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HYDRAULIC SHEAR MACHINES



GAS FORGES



IRON EMBOSSING MACHINES



END WROUGHT IRON MACHINES



BROACHING MACHINES



POWER HAMMERS



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



DSV



NACEX



Airpharm

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.

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This information might undergo changes