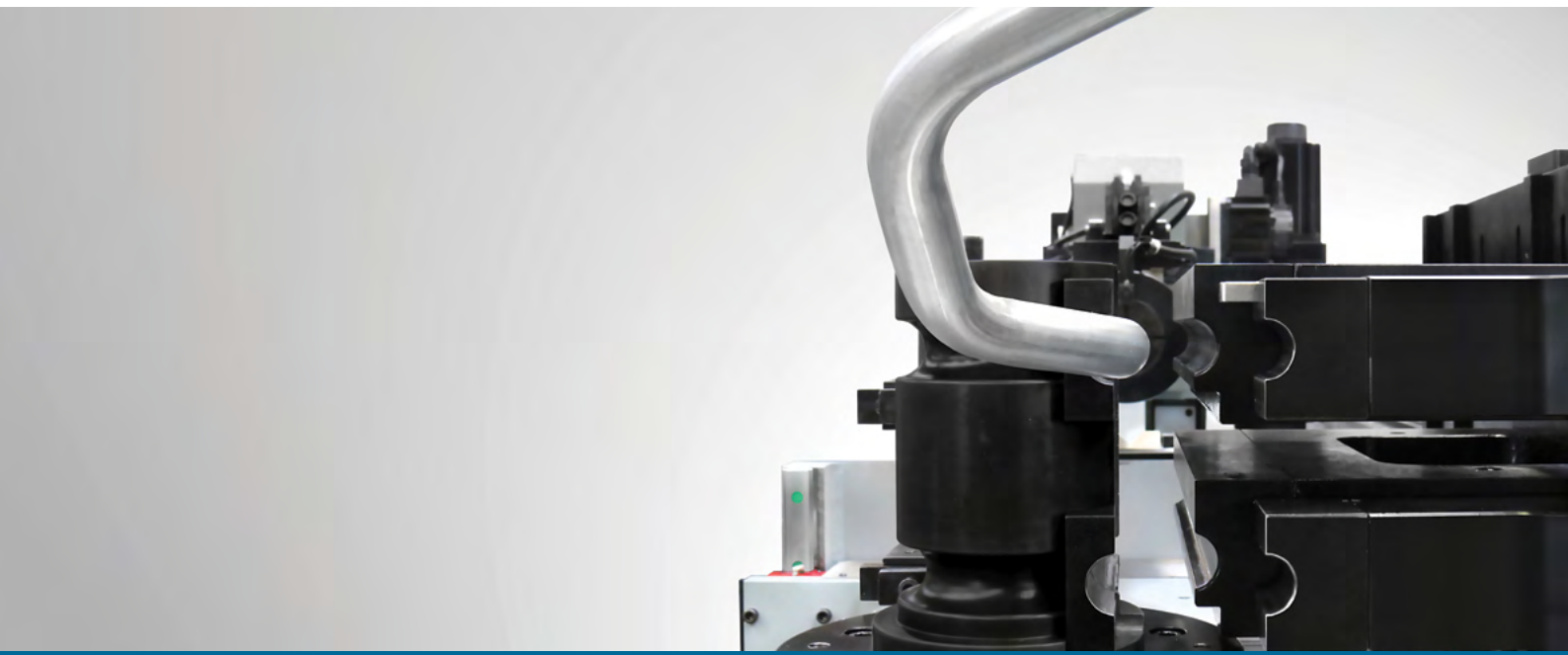


tube bending machines



AMOB

ABOUT US

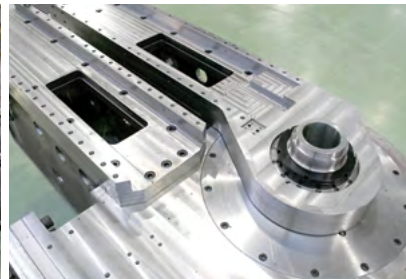
AMOB S.A. provides one of the biggest ranges of specialised equipment for the tube and pipe bending industry worldwide.

Founded in 1960 by António Martins Oliveira Barros (AMOB) and followed now by his son Manuel Barros and by their grandchildren Inês Barros and Manuel António Barros, we have progressively become the world's leading manufacturer of metalworking technologies.

We serve the global market with exceptional machinery and tooling for tube and pipe bending, section bending and swaging purposes – ranging from simple, manual appliances to complex, fully electric CNC powered systems. AMOB designs, develops, retails and services a variety of products for a range of leading industrial industries including automobile and shipping, aeronautics and construction amongst others.

MANUFACTURING

AMOB has a proud history of manufacturing in Portugal, employing over 140 staff members at our main plant in Porto. Our recently-renewed headquarters covers 18000m², and is equipped with the highest technological production equipment including CNC machining centres, lathes and milling machines, as well as sheet metal cutting and bending machinery for guaranteed high fabrication standards. Elsewhere, AMOB has commercial facilities in Russia, Brazil, Spain, Benelux, France and a worldwide network of over 70 agencies and technical centers – providing customer support wherever you are!



TECHNICAL

Our products are designed in our technical department by a team of highly-skilled engineers - we offer competitive solutions without compromising on quality.

Over the years, AMOB has grown with our customers' requirements and the market demand. We're just as passionate about growing and developing our products as we are about our client relationships.



We thank you for choosing AMOB!

eMOB

Fully electric CNC tube bending machines

P4 - 5



Ce

Electric CNC tube bending machines

P6 - 7



CH-L

NC & CNC tube benders

P8 - 9



CH-HD

NC & CNC pipe benders

P10 - 11



MDH

Electric NC tube bending machines

P12 - 13



PT

Tube benders

P14



Software

Tube bending software

P15



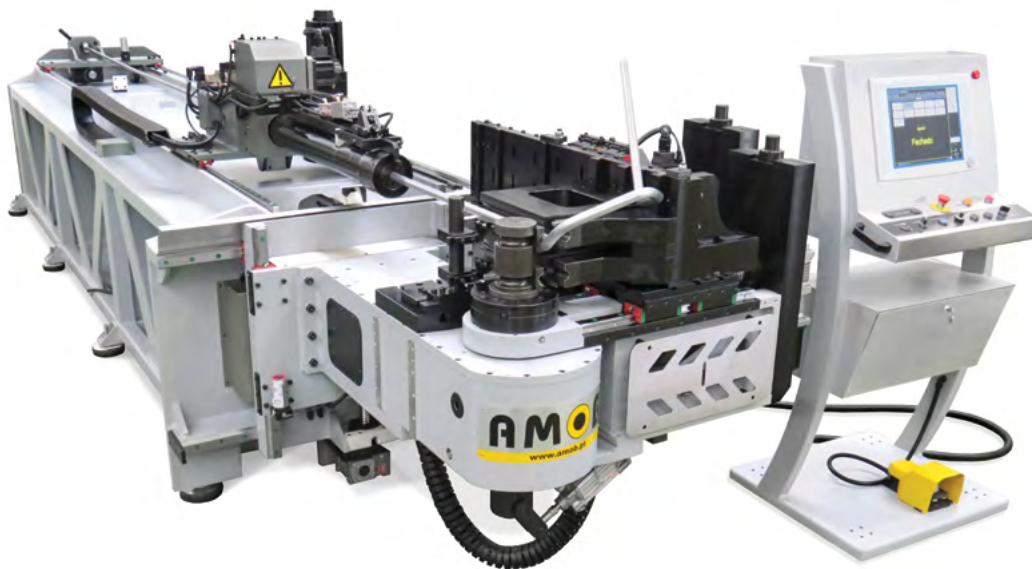
eMOB

Fully electric CNC tube bending machines



The AMOB all-electric CNC **eMOB series** features state-of-the-art bending technology. Processing tube from **10mm** up to **150mm** OD, these machines have multi-stack capability. They can bend fixed and variable radii within the same cycle and allow bending with no straight between them. A carriage booster allows bends with radii as tight as 1D and eliminates clamping marks. Welding detection, punching/cutting mechanisms and integrated loading/unloading systems are also available.

eMOB series machines are all equipped with the newly updated user-friendly AMOB 3D SOFTWARE. Amongst other features it allows automatic spring-back compensation as well as correction "in cycle", stores tooling configuration and positions, runs anti-collision and interpolates all **9 axis**. This shortens setting up and cycle times, eliminating waste and testing periods during the tooling changeover process. Ideal for those working with premium materials, where any error is critical.



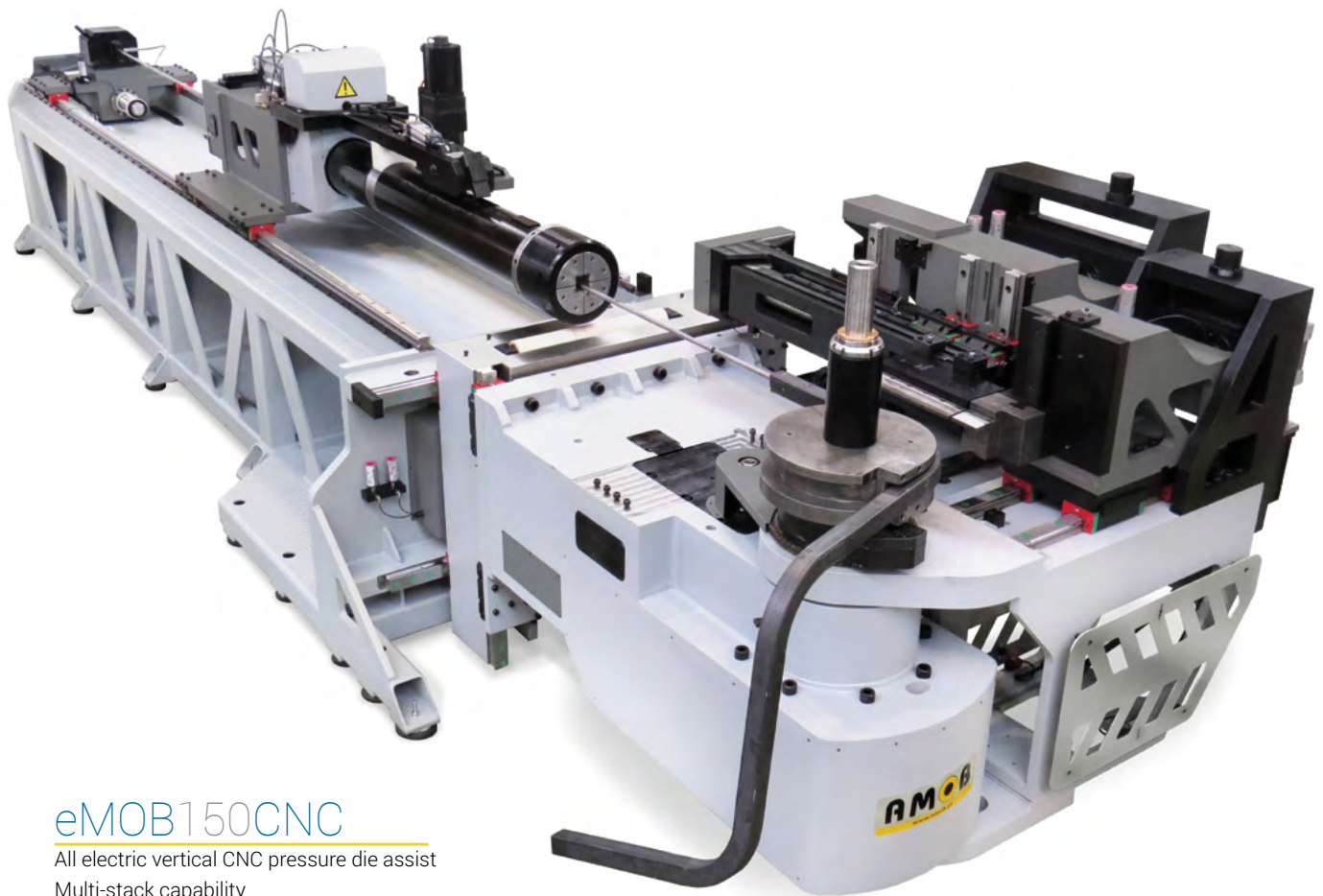
eMOB52CNC

- Automatic spring-back correction
- Fixed and variable radius
- Welding detection



eMOB80CNC

- All electric CNC pressure die assist
- AMOB 3d software
- Punching unit



eMOB150CNC

All electric vertical CNC pressure die assist
Multi-stack capability
Tangent boost



Punching unit

On request, a punching unit can be added to the eMOB series.



Multi-stack capability

All eMOB models have multi-stack, fix and variable radius capability.



Welding detection

There's also the option to add welding detection unit.

Technical specifications

	eMOB-42	eMOB-52	eMOB-63	eMOB-80	eMOB-100	eMOB-130	eMOB-150
Maximum capacity	Ø42x2 mm	Ø52x2 mm	Ø63x2 mm	Ø80x2 mm	Ø100x2 mm	Ø130x2 mm	Ø150x3 mm
Controlled Axes	9	9	9	10	10	10	10
X axis accuracy	± 0,05 mm	± 0,05 mm	± 0,05 mm	± 0,05 mm	± 0,05 mm	± 0,05 mm	± 0,05 mm
Y axis accuracy	± 0,05 °	± 0,05 °	± 0,05 °	± 0,05 °	± 0,05 °	± 0,05 °	± 0,05 °
Z axis accuracy	± 0,05 °	± 0,05 °	± 0,05 °	± 0,05 °	± 0,05 °	± 0,05 °	± 0,05 °
Max. Bending Radius	240 mm	230 mm	350 mm	400 mm	400 mm	400 mm	400 mm

All data of the machines is not binding and may be subject to change without notice. Pictures are for demonstration purpose only.

Ce

Electric CNC tube bending machines



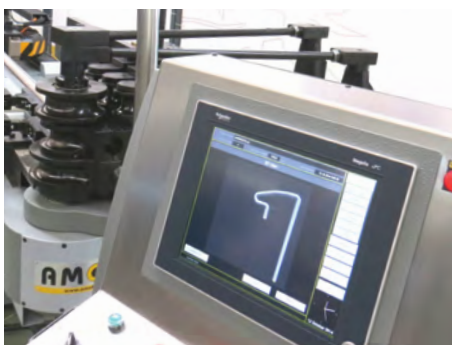
AMOB electric CNC tube bending machines **Ce CNC R series** are the ultimate in efficiency and green technology. This innovative range of products was born out of a growing concern with rising energy prices and production costs, and a need to reduce energy consumption intelligently.

Processing tube from **10mm** up to **90mm** OD, these machines are ideal for medium to large jobs. Available in single stack, double stack or multi-stack capabilities as well as fixed and variable radiuses in the same cycle, they also allow bends with no straight between them when equipped with more than one stack feature. There is also the option to add welding detection, punching/cutting mechanisms and integrated loading or unloading systems, and all Ce CNC R series machines are equipped with the latest AMOB 3D bending software. If you're looking for something in between the CH and e-MOB series, these hybrids are a great compromise.



Ce42CNC-R

Spring-back compensation calibration storage
CNC hydraulic pressure die assist
Programmable variable radius



AMOB 3D software

Ce CNC R series are equipped with latest up to date user-friendly AMOB 3D software.



Fixed and variable radius

All Ce CNC R models have multi-stack, fix and variable radius capability.



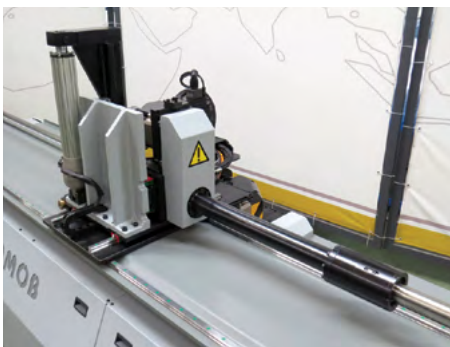
Online diagnosis

AMOB CNC models permit online safe access for online diagnosis.



Ce60CNC-R

CNC hydraulic pressure die assist
 Programmable variable radius
 Fixed and variable radius options
 Multi-stack capability
 AMOB 3d software



Servo controlled POB

All Ce CNC R plane of bend positioners are servo controlled (up to 4 axis).



Multi-stack capability

Ce CNC R models are available in single or multi-stack, fix and variable radius capability.



Low and easy maintenance

All Ce CNC R models are built for low and easy maintenance.

Technical specifications

	Ce-35CNC R	Ce-42CNC R	Ce-60CNC R	Ce-90CNC R
Maximum capacity	Ø 35 x 2 mm	Ø 42 x 2 mm	Ø 60 x 3 mm	Ø 90 x 2 mm
Controlled Axes	3 - 5	3 - 5	3 - 5	3 - 5
X axis accuracy	± 0,05 mm	± 0,05 mm	± 0,05 mm	± 0,05 mm
Y axis accuracy	± 0,05 °	± 0,05 °	± 0,05 °	± 0,05 °
Z axis accuracy	± 0,05 °	± 0,05 °	± 0,05 °	± 0,05 °
Maximum Bending Radius	90 mm	90 mm	180 mm	230 mm
Machine Usefull Length	4000 mm	4000 mm	4000 mm	4000 mm

All data of the machines is not binding and may be subject to change without notice. Pictures are for demonstration purpose only.

CH-L

NC & CNC tube benders



Our **CH-L series** is the backbone of our tube and profile bending machines. Their rigidity, stability and untouchable precision in exceptional conditions such as humidity or harsh temperatures is what makes them stand out from the crowd.

Ranging from **10mm** up to **120mm** OD these machines are suited for use in a wide range of pipe manufacturing sectors and industries. Available in different versions, there's NC1, NC2 and fully CNC, where all three axis are automatic in a single stack machine. There's also the option to add welding detection, punching/cutting mechanisms and integrated loading and unloading systems if necessary.

The **CH-L series** comes equipped with the AMOB NC touchscreen easy-to-operate controls, or in the CNC version, with the latest user-friendly AMOB 3D bending software. This stores tooling configuration, allows spring-back compensation and boasts anti-collision technology, amongst other features.

These multi-faceted models are easy to operate and suitable for almost all types of applications and industries.



CH60CNC

- Direct acting clamp die cylinder
- Tooling withdrawal system
- Mandrel rod storage
- Single stack



3D imaging devices connection

Allows easy CAD comparison, dimensional analysis and reverse engineering.



Online diagnosis

AMOB CNC models permit online safe access for online diagnosis.



Special propose tooling

On request CH-L series may be equipped with punching unit.



CH120CNC-B

Tube back feeding sensor
 Booster bending
 Compound tooling



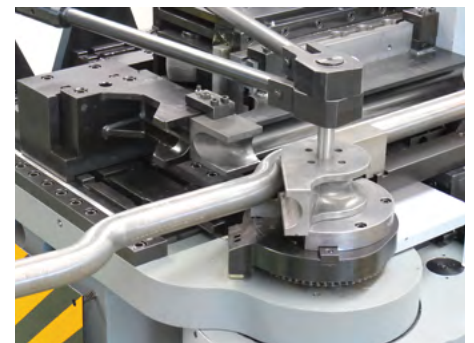
Booster bending

The pressure die assist/booster cylinder is integrated into the pressure die carrier head.



Serpentine tooling

Designed to exact centerline radii specifications requiring continuous 180-degree plane change.



Compound Tooling

Machined tube groove matching the contour of the previous bend.

Technical specifications

	CH-35	CH-42	CH-60	CH-80	CH-120
Maximum capacity	Ø 35 x 2 mm	Ø 42 x 2 mm	Ø 60 x 3 mm	Ø 80 x 3,5 mm	Ø 114,3 x 8,6 mm
X axis accuracy (CNC)	± 0,05 mm	± 0,05 mm	± 0,05 mm	± 0,05 mm	± 0,05 mm
Y axis accuracy	± 0,1 °	± 0,1 °	± 0,1 °	± 0,1 °	± 0,1 °
Z axis accuracy (CNC)	± 0,1 °	± 0,1 °	± 0,1 °	± 0,1 °	± 0,1 °
Maximum Bending Radius	125 mm	125 mm	220 mm	260 mm	340 mm
Machine Usefull Length	3000 mm	3000 mm	3000 mm	3000 mm	4000 mm

All data of the machines is not binding and may be subject to change without notice. Pictures are for demonstration purpose only.

CH-HD

NC & CNC pipe benders

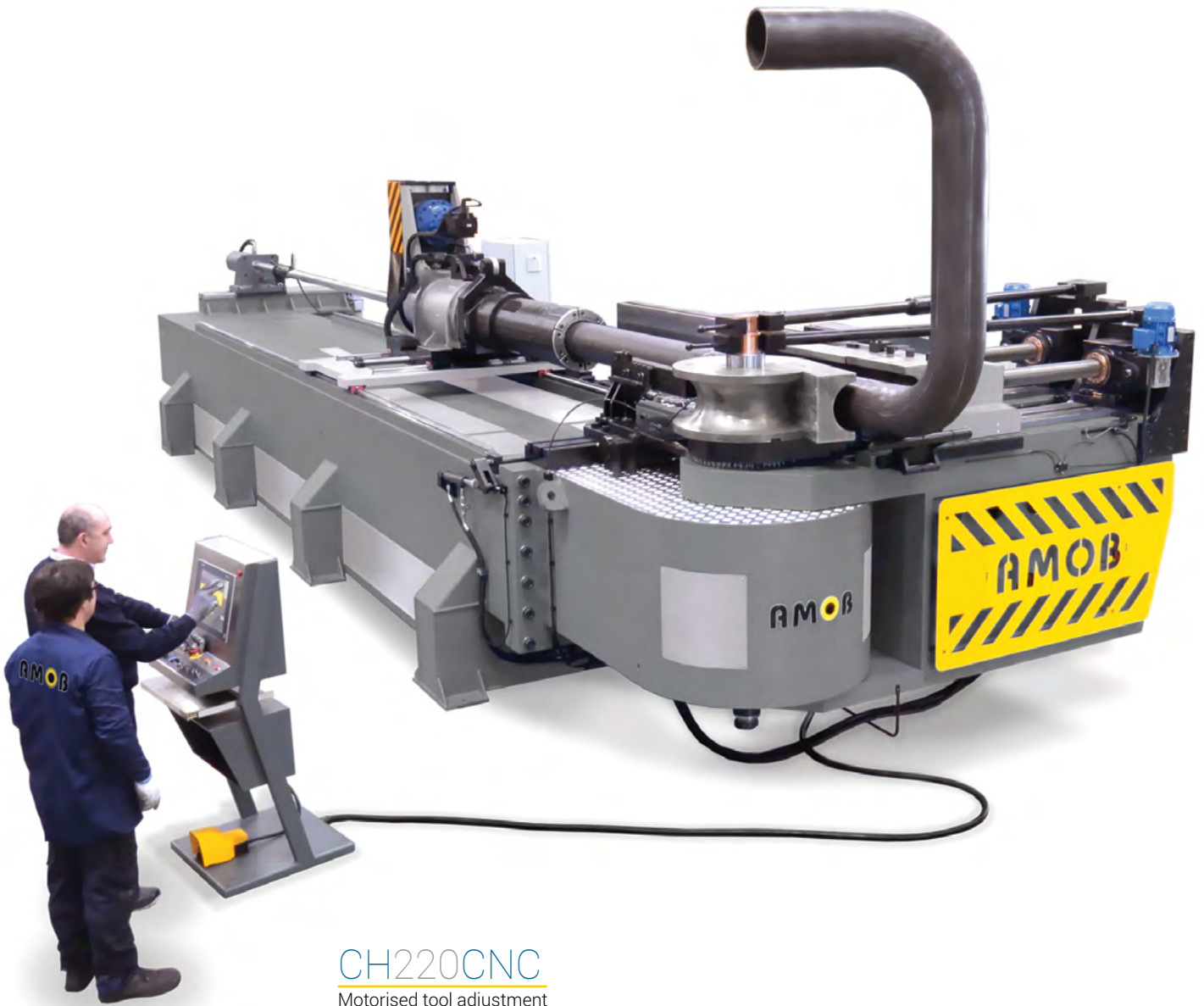


The AMOB NC & CNC tube bending machines **CH-HD series** are a heavy-duty version of the CH-L cold tube and profile bending machines. Like the CH L range, they are robust and reliable in extreme conditions such as high humidity or harsh temperatures.

Covering ODs from **120mm** up to **420mm**, these monster machines are suited for use in a wide range of pipe manufacturing sectors and industries. Available in different versions, there's NC1, NC2 and fully CNC, where all three axis are automatic in a single stack machine. Welding detection, punching/cutting mechanisms and integrated loading and unloading systems can also be added.

This series also comes equipped with the AMOB NC touchscreen easy-to-operate controls, or again in the CNC version, with the latest AMOB 3D software.

These user-friendly systems are suitable for almost all types of applications and heavy industries.



CH220CNC

- Motorised tool adjustment
- Quick tool changing
- Wiper die automatic lubrication



CH320CNC-B

Motorised tool adjustment

Quick tool changing

Booster bending



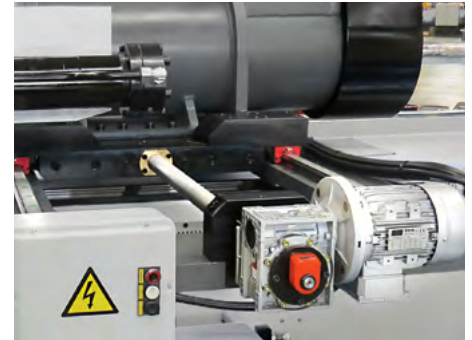
Quick tool changing

In order to reduce setup times, all CH-HD features quick tool changing.



Rear and front tube loading system

Integrated loading/unloading systems can also be added.



Motorised tool adjustment

CH-HD models, can be equipped with motorised tool adjustment.

Technical specifications

	CH-170	CH-220	CH-270	CH-320	CH-350	CH-420
Maximum capacity	Ø168,3x11 mm	Ø219,1x12,7 mm	Ø273x15,1mm	Ø323,9x17,5 mm	Ø355x19,1 mm	Ø419x21,4 mm
X axis accuracy (CNC)	±0,1 mm	±0,1 mm	±0,1 mm	±0,1 mm	±0,1 mm	±0,1 mm
Y axis accuracy	±0,1 °	±0,1 °	±0,1 °	±0,1 °	±0,1 °	±0,1 °
Z axis accuracy (CNC)	±0,1 °	±0,1 °	±0,1 °	±0,1 °	±0,1 °	±0,1 °
Max. Bending Radius	600 mm	1000 mm	1000 mm	1050 mm	1050 mm	1200 mm
Usefull Length	4000 mm	4000 mm	6000 mm	6000 mm	6000 mm	6000 mm

All data of the machines is not binding and may be subject to change without notice. Pictures are for demonstration purpose only.



The AMOB MDH series (NC electric tube benders) is our standard-issue range – simplicity, strength and accuracy are the key features of this extremely cost-effective line. Ideal for prototyping or small to medium projects, MDH are easily adapted to each different industrial and non-industrial situation.

Covering a range from 10mm up to 90mm OD, these versatile machines are an easy and obvious choice for those starting up a tube bending business, or to complement heavy production or prototyping divisions. As standard, these machines come with a hydraulic mandrel extractor, hydraulic clamp and pressure die which guarantees a good-quality bend finish. Available in two versions - NC1 and NC2 axis - these machines allow for bending complex tube geometries within seconds of programming. Machines from this range are all equipped with AMOB NC touchscreen easy to operate controls.



MDH90CN1

- User-friendly touchscreen controller
- Hydraulic mandrel extractor
- 1 axis NC control



User friendly touch screen controller

MDH Series are all equipped with AMOB NC touchscreen easy-to-operate controls.



Direct acting pressure die cylinder

Pressure die cylinder is mounted in tube's centerline plane to resist the bending forces.



Built in storage

MDH Series machines features built-in storage for tooling and accessories.



MDH90CN2

User-friendly touchscreen controller
Hydraulic mandrel extractor
2 axis NC control



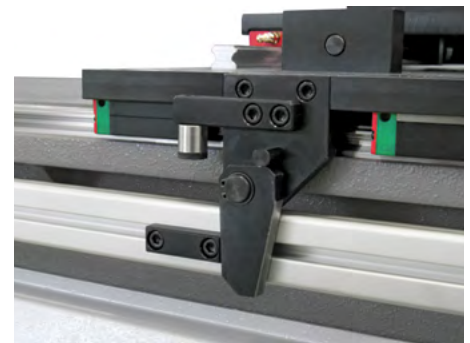
Hydraulic POB clamp

NC plane of bend positioner equipped with hydraulic clamp.



Special propose tooling

On request, MDH series may be equipped with special tooling.



Magnetic flip stops

Easy-to-setup sequentially adjustable magnetic flip stops for X axis.

Technical specifications

	MDH-35	MDH-60	MDH-90
Maximum capacity	Ø 35 x 3 mm	Ø 60 x 3 mm	Ø 90 x 4 mm
Y axis accuracy	± 0,1 °	± 0,1 °	± 0,1 °
Z axis accuracy	± 0,05 °	± 0,05 °	± 0,05 °
Maximum Bending Radius	110 mm	195 mm	305 mm
Machine Usefull Length	3000 mm	3000 mm	3000 mm
Installed Power CN1 - CN2	4,75 KW - 5 KW	6,2 KW - 6,4 KW	8 KW - 8,25 KW

All data of the machines is not binding and may be subject to change without notice. Pictures are for demonstration purpose only.

PT

Tube benders

AMOB's mandrel-less tube & pipe bending machines are made to cover the needs of those bending large radii and thick walls in very small batches. Portability and simplicity combined with quick tool changes allow these machines to be used by any operator, even on a first-time basis.



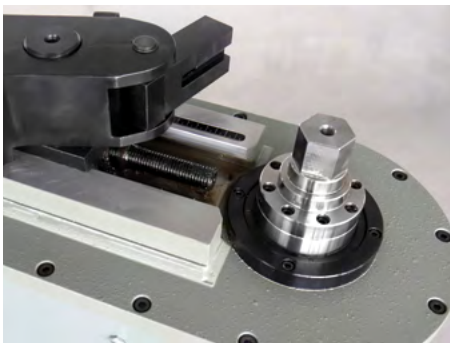
PT76

Wheel base
Universal tooling bed
Quick toll change



User-friendly controller

PT series machines are equipped with easy-to-operate digital readout controls.



Permutable shaft

The PT series is equipped with permutable shaft for tight radius.



PT127

Universal tooling bed
Quick toll change
Tightning bar

Technical specifications

	PT-42	PT-76	PT-127
Maximum capacity	Ø 42 x 3 mm	Ø 76 x 4 mm	Ø 127 x 3 mm
Y axis accuracy	± 0,5 °	± 0,5 °	± 0,5 °
Maximum Bending Radius	260 mm	300 mm	450 mm
Installed Power	0,750 KW	1,5 KW	5,5 KW

All data of the machines is not binding and may be subject to change without notice. Pictures are for demonstration purpose only.

Software

Tube bending software

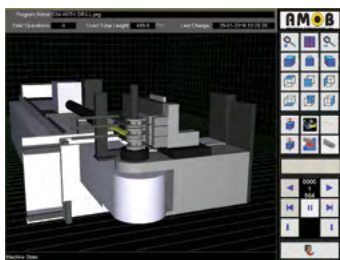
AMOB 3D BENDING SOFTWARE is at the cutting-edge of tube bending applications. Extremely easy to operate, it allows direct programming using coordinates or LRA, as well as importing CAD files. Amongst other features it boasts automatic spring-back compensation, stores tooling configuration and geometry, and features anti-collision properties for component feasibility, without prototyping or wasting material. Thanks to its intuitive software design, which utilises a stepping program, it's very easy to use - an ideal choice for both junior or senior operators.



AMOBCNC

- 3D display of tube development
- Simultaneous axis movements (reduced cycle time)
- Tube length computing
- Continuous machine monitoring
- Anti-collision tests software as standard feature
- Detailed tool display
- Clear machine display
- Data insert (XYZ and LRA)
- ...

AMOB Software is compatible with a wide variety of CAD softwares (Autocad, Inventor, Solid Works, Nupas Cadmatic, Tribon, etc) and is able to automatically download most used extensions such as .Step, .Dxf and .Bkt files.



Anti-collision



Tooling storage



Online diagnosis



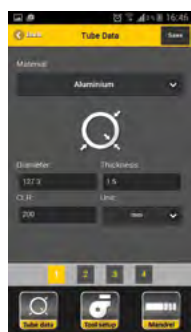
XYZ and LRA programming

AMOBAPP

AMOBAPP is the ultimate aid for AMOB machines users in day-to-day operations.

By simply entering tube OD, wall thickness, material and CLR, you will receive a visual representation of what's required to perform the perfect bend. The tool archive allows management of pre-existing tooling and adjustment details.

Main features: tool setup and archive, tool notes and adjustments, coordinate converter (XYZ - LRA), bending guide, metric and imperial settings.



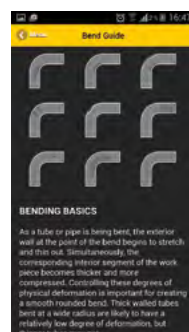
Tube data



Tool setup



Mandrel setup



Bend guide



Head quarters

AMOB Portugal

Rua Padre Domingos J. Pereira 1249
4760 – 563 Louro - V.N. Famalicão
Portugal
Telf. 00 351 252 330 900
amob@amob.pt
www.amobgroup.com