mandrel bending machines
ABOUT US

Founded in 1999, Baileigh Industrial have always been committed to providing both the highest quality industrial metalworking machinery available, and supplying its customers with an unsurpassed after-sales support team.

From a small factory in small town USA, Baileigh Industrial began by manufacturing its now world-renowned rotary draw benders and tube notchers, and quickly grew to encompass almost all types of metal fabrication machinery.

We serve the global market with exceptional machinery and tooling for tube and pipe bending, section bending and many other fabricating solutions – ranging from simple, manual appliances to complex, fully electric CNC powered systems.

These mandrel benders have been designed and developed for a range of industrial industries, including automotive, aerospace, shipping, and construction, amongst many others.

MANUFACTURING

Baileigh Industrial mandrel benders are manufactured in Porto, Portugal, employing over 140 staff members in a facility covering 18,000m², a factory which 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. For example, all tooling by Baileigh Industrial is machined from a single piece of solid-billet, ensuring superior quality and improved accuracy to that of any die-cast production methods.

TECHNICAL

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

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

We thank you for choosing Baileigh Industrial!
The Baileigh Industrial all-electric CNC Fully Electric series features state-of-the-art bending technology. Processing tube from 40mm up to 150mm OD, these machines have multi-stack capability. They can bend fixed and variable radii within the same cycle and allows 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.

The Fully Electric series machines are all equipped with the newly updated user-friendly 3D software. Amongst other features it allows automatic spring-back compensation as well as correction mid cycle, stores tooling configuration and positions, runs anti-collision, and interpolates all 9 axes. 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.
MB-Hybrid CNC

Electric CNC tube bending machines

Baileigh electric CNC tube bending machines MB-Hybrid CNC 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 35mm 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 radiiues 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 MB-HY CNC series machines are equipped with the latest 3D bending software. If you’re looking for something in between the MB-CNC and MB-FE series, these hybrids are a great compromise.

MB-42-Hybrid CNC-R
- Spring-back compensation calibration storage
- CNC hydraulic pressure die assist
- Programmable variable radius

MB-60-Hybrid CNC-R
- CNC hydraulic pressure die assist
- Programmable variable radius
- Fixed and variable radius options
- Multi-stack capability
- User-friendly 3D software

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

Fixed and variable radius
All Hybrid CNC R models have multi-stack, fixed, and variable radius capability.

Online diagnosis
CNC models permit online safe access for online diagnosis.

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 º        ± 0.05 º            ± 0.05 º        ± 0.05 º
Z axis accuracy    ± 0.05 º        ± 0.05 º            ± 0.05 º        ± 0.05 º
Maximum Bending Radius  90 mm        90 mm            180 mm                     230 mm
Machine Useful Length   4000 mm       4000 mm            4000 mm                     4000 mm

Online diagnosis
CNC models permit online safe access for online diagnosis.

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

Multi-stack capability
Hybrid CNC R models are available in single or multi-stack, fixed, and variable radius capability.

Low and easy mainteance
All Hybrid CNC R models are built for low and easy maintenance.

Specifications subject to change without notice. Pictures are for demonstrative purpose only.
Our MB-CNC series is the backbone of our tube and profile bending machinery. 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 35mm 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 MB-CNC series comes equipped with easy-to-operate NC touchscreen controls, or in the CNC version, with the latest user-friendly 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.
The NC & CNC tube bending machines MB-NCH series are a heavy-duty version of the MB-CNC cold tube and profile bending machines. Like the MB-CNC 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 easy-to-operate NC touchscreen controls, or again in the CNC version, with the latest 3D software. These user-friendly systems are suitable for almost all types of applications and heavy industries.

**Technical specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Maximum capacity</th>
<th>X axis accuracy (CNC)</th>
<th>Y axis accuracy</th>
<th>Z axis accuracy (CNC)</th>
<th>Max. Bending Radius</th>
<th>Useful Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB-170-NCH</td>
<td>Ø 168 x 11 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>600 mm</td>
<td>4000 mm</td>
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<tr>
<td>MB-220-NCH</td>
<td>Ø 210 x 12.7 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>1000 mm</td>
<td>4000 mm</td>
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<tr>
<td>MB-270-NCH</td>
<td>Ø 273 x 15.1 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>1050 mm</td>
<td>6000 mm</td>
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<tr>
<td>MB-320-NCH</td>
<td>Ø 323 x 17.5 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>1050 mm</td>
<td>6000 mm</td>
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<tr>
<td>MB-350-NCH</td>
<td>Ø 355 x 19.1 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>1200 mm</td>
<td>6000 mm</td>
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<tr>
<td>MB-420-NCH</td>
<td>Ø 419 x 21.4 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
<td>± 0.1 mm</td>
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</table>

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**MB-NCE**

**Electric NC tube bending machines**

The Baileigh Industrial MB-NCE 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, MB-NCE are easily adapted to each different industrial and non-industrial situation. Covering a range from 35mm 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 easy-to-operate NC touchscreen controls.

**MB-90-NCE2**
- User-friendly touchscreen controller
- Hydraulic mandrel extractor
- 2 axis NC control

**MB-90-NCE1**
- User-friendly touchscreen controller
- Hydraulic mandrel extractor
- 1 axis NC control

**Technical specifications**

<table>
<thead>
<tr>
<th></th>
<th>MB-35-NCE</th>
<th>MB-60-NCE</th>
<th>MB-90-NCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum capacity</td>
<td>Ø 35 x 3 mm</td>
<td>Ø 60 x 3 mm</td>
<td>Ø 90 x 4 mm</td>
</tr>
<tr>
<td>Y axis accuracy</td>
<td>± 0.1°</td>
<td>± 0.1°</td>
<td>± 0.1°</td>
</tr>
<tr>
<td>Z axis accuracy</td>
<td>± 0.05°</td>
<td>± 0.05°</td>
<td>± 0.05°</td>
</tr>
<tr>
<td>Maximum Bending Radius</td>
<td>110 mm</td>
<td>195 mm</td>
<td>305 mm</td>
</tr>
<tr>
<td>Machine Useful Length</td>
<td>3000 mm</td>
<td>3000 mm</td>
<td>3000 mm</td>
</tr>
<tr>
<td>Installed Power CN1-CN2</td>
<td>4.75 KW – 5 KW</td>
<td>6.2 KW – 6.4 KW</td>
<td>8 KW – 8.25 KW</td>
</tr>
</tbody>
</table>

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Software

Tube bending software

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.

MB-CNC-SOFTWARE

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)

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.

MOBILEAPP

The mobile app is the ultimate aid for machine 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.
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