

MCP

Technical Features Summary



DAVI

Davi MCP

3-Roll Double Pinch Angle Roll Machine

Because of variability in processed parts, required accuracy, output volume, etc. **each industrial sector requires dedicated manufacturing strategies.**

When it comes to section bending, such strategies must be accommodated by selecting the right machine based on the specific application.

Thanks to the wide range of available angle roll machines, Davi can offer the most suitable machine for any application. Depending on machine capacity, a 3-roll double pinch machine can operate in two different ways:

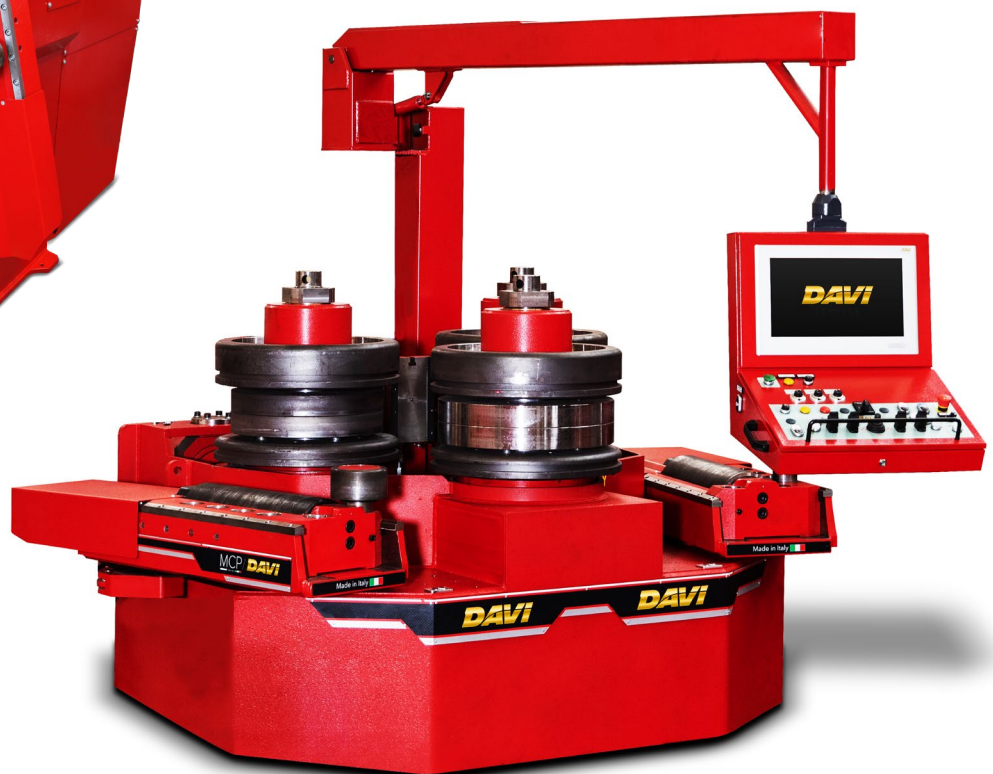
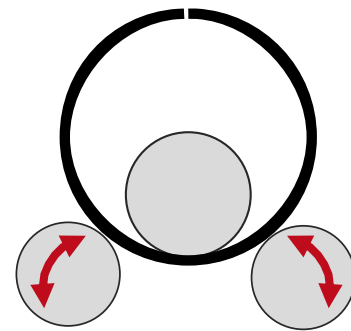
- With horizontal shafts: usual configuration for small

machines, allowing for simpler operation due to easy handling of small sections

- With vertical shafts: usual configuration for large machines, required to be able to simplify
- Handling of heavy sections by bending them parallel to the ground

Regardless the configuration, Davi MCP 3-roll machines feature two **side rolls moving against the fixed top roll.**

The side rolls, actuated by **planetary guides** technology, provide the necessary bending force achieving **tight diameters** while obtaining **high accuracy.**



Improved Handling and Safer Operations

Thanks to 3 Motorized Rolls as Standard

Particularly on a **3-roll machine**, it is to hold as much grip as possible on the sections.

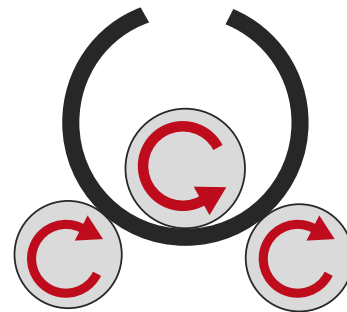
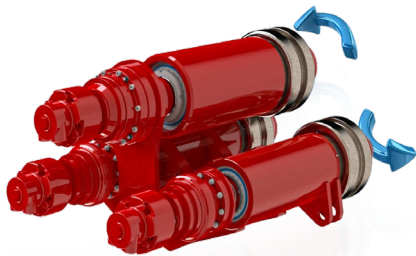
Featuring **three independent motors driving each individual roll as standard, Davi all-rolls-drive** technology guarantees the optimum torque transmission to the sections and distribution between hydraulic motors.

Thanks to this system:

- Rolls speed on each roll will be **automatically and**

hydraulically synchronized

- The risk of section slipping/falling during the bending process is highly reduced
- **Turbo** and **Turbo Booster Rolling speed** can be installed on demand



Maximum Flexibility

Thanks to Exclusive Davi Torque Management System (DTMS)

Unlike other solutions available on the Market, provisioning a single hydraulic motor driving the three rolls, Davi MCP features **three independent hydraulic motors driving each individual roll**.

This arrangement, in conjunction with the Davi exclusive **Torque Management System**, allows for perfect control of the overall available machine power.

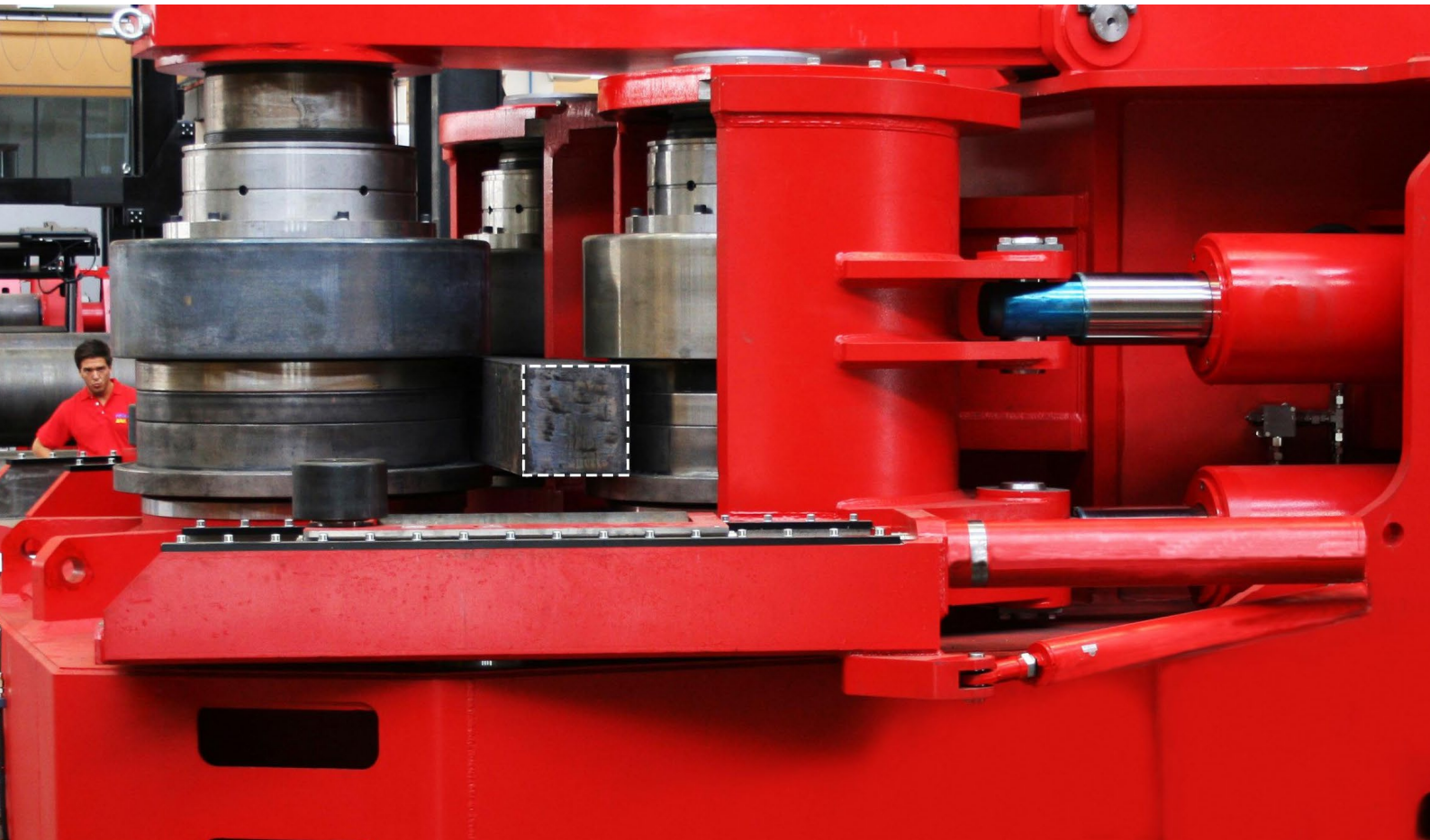
Specifically, the system guarantees:

- the lowest amount of slippage between rolls and section, for the highest **transmission efficiency** (avoiding power losses)
- a low chance of section **getting stuck** while bending

Whenever higher degree of precision and performance is required, the machine can be provisioned with a

technologically superior hydraulic unit capable of:

- **transferring the highest amount of torque** where needed (getting out of difficulties balancing the torque for example in case of different torques needed on the three rolls)
- **synchronizing all the rolls** contact speed, even in case of tools with different outer diameter



Increased Competitiveness on the Market

Thanks to Universal Rolls

Depending on the Market your Company is operating in, the manufacturing demand might change significantly from day to day.

If this is the case, it becomes of critical importance being able to quickly switch production from one section to the other using the same machine in order to be as competitive as possible.

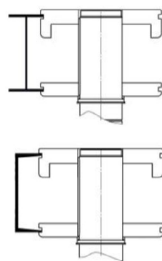
In this regard, Davi MCP machines can be provisioned with a set of UNIVERSAL ROLLS specifically designed to allow you to bend a wide range of standard sections:

- Flats
- Squares

- Rounds
- Angles
- T shapes

and in addition to the standard, also, exclusively:

- Channels
- Beams



Dedicated Solutions for Specific Needs

Thanks to the Highest Level of Customization on the Market

Davi R&D Department will process your requirements and help you select **the optimum technical and commercial solution** to maximize the **return on your investment** as much as possible.

For this reason, even the small and medium capacity machines solutions **can be fully customized** to better support the most diverse production requirements and industrial sectors. The wide availability of tailor-made accessories provides a **high flexibility** to perfectly fit all your needs.

However, what would happen if your **production schedule requirements** had to change in the future?

Davi MCP machines and control systems **are designed to allow easy retrofitting of accessories**.



Outfeed conveyor and vertical support



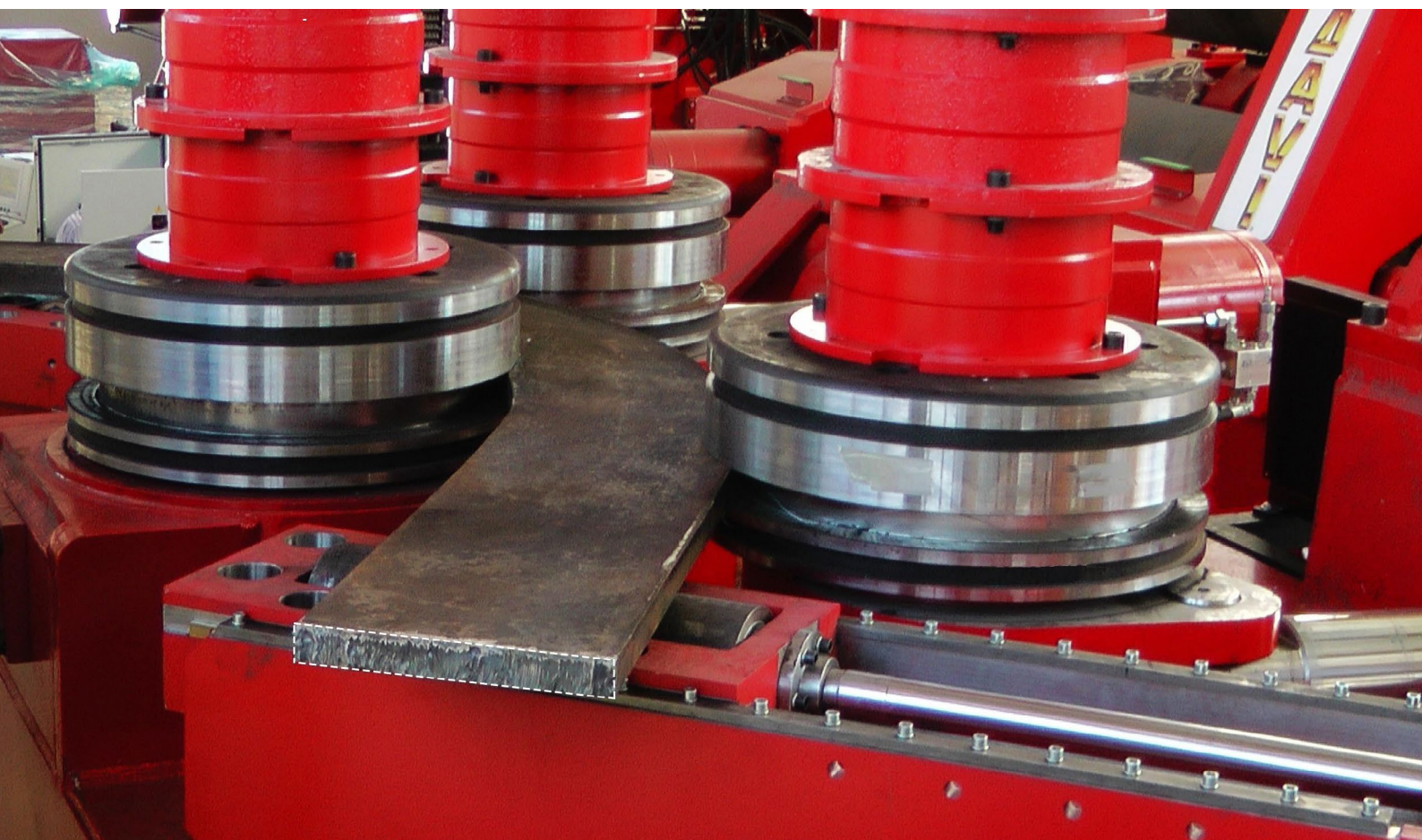
Sensor Zero



Smart remote control



Hydraulic rolls setup



Best Accuracy and Safety

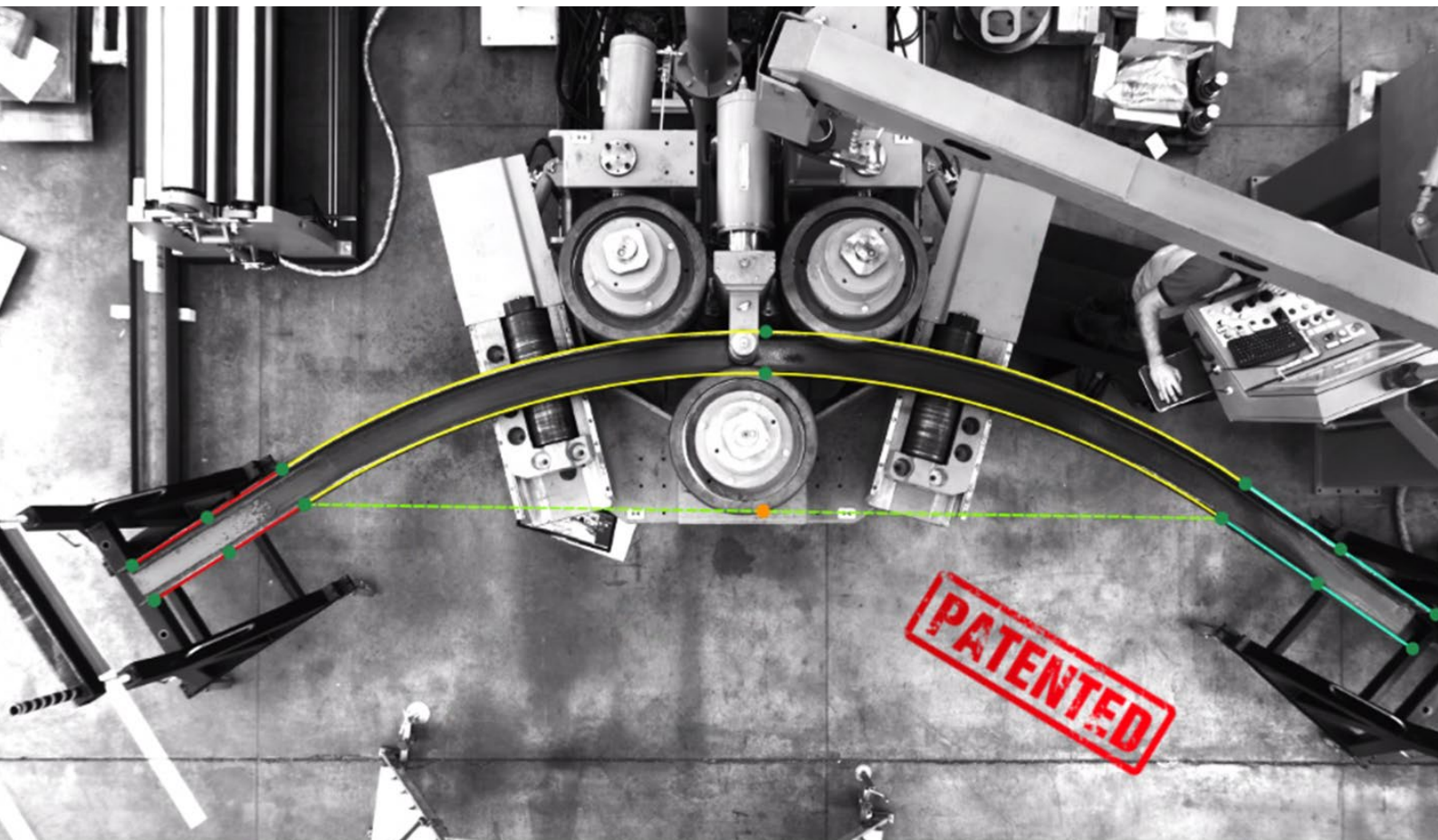
Thanks to Davi Patented iRoll Camera

It is common practice for the Bending Industry to check the quality of the manufactured workpiece with a template drawn on the ground or, rather, utilizing heavy physical templates.

In fact, while the latter method allows the operators to check the curvature radius on a limited portion of the section, the first one requires loading and unloading the part several times on the machine.

Both processes are inaccurate, time consuming, costly and potentially increasing the risk of injuries.

Davi responded by introducing the exclusive patented HD iRoll Camera, providing a digital template which can be used by the Operators to continuously monitor the accuracy of the part being bent as well as conduct a fast and rigorous quality control of the final workpiece.



Optimized Operability and Productivity

Thanks to Dedicated Accessories, HRA and Automated 3D Bending

Should the need for **greater section handling capability, improved process automation** or, even, the ability to fabricate special parts within machine capacity needing special tools arise, Davi will help you select **the most appropriate auxiliary equipment** to suit it. For example, the bending of large multiple spirals involves the use of accessories such as **multiple groove tools, overhead support with integrated pushers, synchronized and motorized outfeed conveyors**, etc.

Because of smaller and more complex batches of parts being required by the Market, as well as extremely tight delivery times, **companies must be structured to quickly switch from one batch to another**. As a consequence, the machine should be provisioned with suitable tools and accessories. Thanks to the possibility of adjusting the tools configurations, **Davi Hydraulic Rolls Setup** meets the most demanding customers by allowing rapid shifts of production. A “non-manual”

handling of the tools allows for:

- a significant time reduction in finding the most appropriate machine setting
- improved Operators' safety

For complex applications such as roller coaster or structures, **Davi 3D Forming System** enables the Operators to automatically manufacture three-dimensional shapes with high accuracy. This is achieved thanks to a **CNC-controlled turning** unit able to simultaneously rotate the section around its axis while being driven forward by the machine rolls.





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