

PARMIGIANI

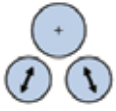
ADVANCED BENDING TECHNOLOGY



3-ROLL DOUBLE PINCH PLATE BENDING ROLLS

T B H

HYDROTRONIC



TBH HYDROTRONIC

3-roll double pinch plate bending rolls

The TBH is a pyramid design plate roll with independent adjustment of the two lower rolls on inclined sliding guides.

This allows to pre-bend and roll both plate edges with only one insertion (no need to remove and turn the plate).

The three rolls drive ensures the best plate feeding even when rolling thin plates, and the large opening between top and lower rolls increases the machine flexibility.

Our TBH bending machines are equipped with the exclusive Parmigiani Parallelism System (PPS) for rolls parallelism control (closed-ring type).

The PPS guarantees maximum precision in rolls positioning even after several years of intensive work.

The rolls move along linear sliding guides with antifriction material (AVG System). This maintenance-free system brings along many advantages, such as the higher loading and carrying capacity and the smooth and stable positioning.

All rolls, mounted on spherical roller bearings, are driven by separate hydraulic motors, one for each roll.

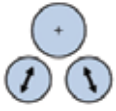
The TBH bending machines are equipped with the multi-bearing system, which guarantees the highest reliability even for intensive productions and cone bending.

Built for heavy works

The widest range of machines on the market



Three driven rolls
independent adjustment of the lower rolls
Linear sliding guides
Digital parallelism control PPS



Get more with linear guiding

Maximum strength and stiffness

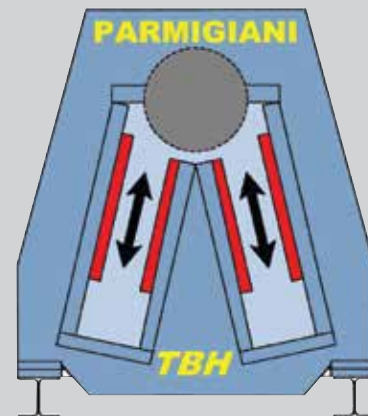
ALG SYSTEM

Antifriction linear guides

The linear guides design is the only system that can grant the necessary machine stiffness and the perfect geometry for all kind of bending operations.

The linear design allows a compact geometry of the machine ("minimum centerline distance between the two side rolls" impossible to obtain with the swinging design) that it is essential for the bending precision and accuracy.

The linear design allows to work in the best and ideal geometrical conditions when rolling high yield strength materials, reducing the shell spring back reopening effect and also allows to obtain much smaller bending diameters when compared with the swinging design.

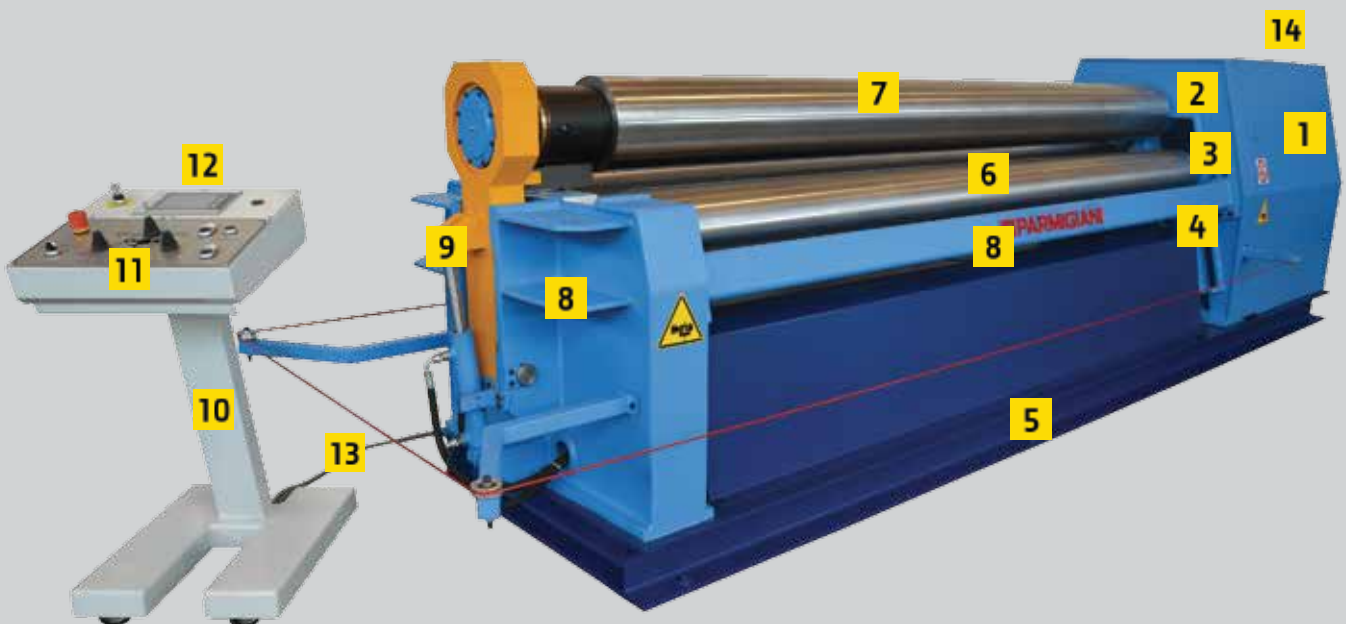


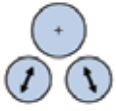
**PARMIGIANI LINEAR GUIDES:
Minimum bending diameter up to 1.1 x top roll diameter.**

Discover the TBH rolls

We redefine rolling standards

- 1** Full frame design for maximum rigidity and precision
- 2** Machine frame with linear guides for rolls sliding
- 3** Heavy-duty multibearing system with 4 spherical roller bearings for each roll
- 4** Sliding support with high resistance antifriction material
- 5** Rigid frame construction without force transmitted to foundation
- 6** Digital control of the rolls parallelism with proportional valves. Precision 0,1 mm (0,004")
- 7** Rolls made of high resistance steel forgings, with large diameter and light cambering
- 8** Heavy-duty and rigid frame design for maximum resistance for cone rolling
- 9** Heavy-duty turning bearing support, with four anti deflection points for maximum rigidity
- 10** Centralized control panel, lightweight design for easy handling
- 11** Control panel with low voltage control designed for "easy service"
- 12** Operator's panel with 7" wide screen. High resolution full color display, touch - screen
- 13** Wired with light-cables against electromagnetic interference
- 14** Fully hydraulic drive of top and lower rolls with automatic speed compensation





I 3-ROLL DOUBLE PINCH PLATE BENDING ROLLS TBH

Presenting the all new TBH Hydrotronic

Exceeding your expectations

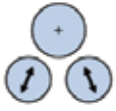


TBH-Series manufacturing range:

Plate thickness from 1 up to 150 mm (0.05" to 6.0")

Length from 300 up to 8.000 mm (1' to 26')





Extended diagnostic in real time

i-Diagnostic® and FACILE® ... the future is today

i-Diagnostic®

**Active extended diagnostic:
a revolution in customer support.**

Have you ever wasted precious working time trying to find out the cause for a sudden machine breakdown? Checking all fuses, all PLC modules, cables, buttons or cards to find the guilty component?

With the innovative PARMIGIANI i-Diagnostic system these problems now belong to the past!

The i-Diagnostic is a revolutionary extended diagnostic system allowing you to monitor all main machine functions in real time with an intuitive and user-friendly interface.

From the control panel you can control the status of almost every component and electrical connection around the machine, including push buttons, potentiometers, micro-switches, checking even if they are engaged/energized or not.

Furthermore, our i-Diagnostic shows you in real time the circuit parts currently activated, which hydraulic valve is responsible for activating a specific part and much more. In short, a huge revolution in the concept of trouble-shooting.

FACILE®

**Do It Yourself. With our Plug & Play
quick connections.**

All Parmigiani machines feature the exclusive FACILE wiring system made of connectors and digital distributors with Plug & Play technology.

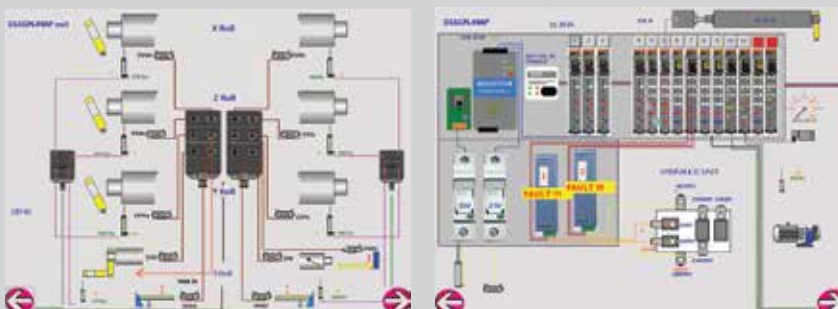
Wirings with connectors are far more reliable over time and also insensitive to environmental contaminations or vibrations.

Thanks to our FACILE Plug & Play system you will be able to replace any cable without needing to unscrew any wire from the terminal board.

Our FACILE technology comes standard even on all PLC modules and cards, guaranteeing easy maintenance without calling for skilled electricians! In this way, all machine servicing will be quicker and cheaper.

With the aim of increasing your independence from any third parties, we have installed the software on static SSD cards rather than on volatile e-proms or hard disks. This means that, should you ever need to replace the PLC, you will never lose the software.

Less troubles and maximum uptime.



Absolute precision. Total reliability.

Standard on all our machines.

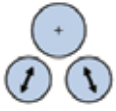
DiGIMATIC®

Bigger, brighter and easier to learn and operate.

The DIGIMATIC® generation features fast adjustment of machine functions and controls, and has been fully integrated into the centralized panel to create a seamless control center.

With its 7-inch touch-screen display, the DIGIMATIC® control comes standard on nearly all models of TBH plate rolls.





Rolling precision is a must!

When you want to move to precision rolling, look to Parmigiani.

PPS SYSTEM

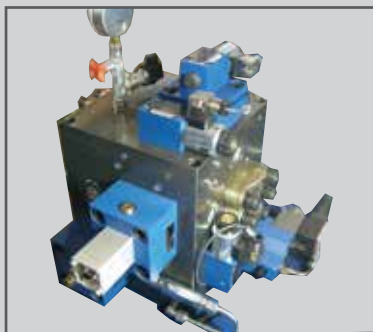
Exclusive digital parallelism system

The PPS is the most advanced parallelism system currently available on the market.

The rolls parallelism in a plate bending machine is the key factor for production accuracy. The capability to maintain its precision across the years is what makes the difference. For this reason, we used the best of the technology today available: digital control systems and hydraulic flow control via proportional valves.

We have designed a totally wear-proof system that will give you years and years of trouble-free operation, keeping the machine positioning precision like the first day!

The parallelism of the rolls is fully controlled by a high-speed digital FIELD BUS system. The package also includes a set of proportional hydraulic valves with high-performance digital control cards, matching the high speed of the FIELD BUS system. This digital technology (the loop control is 20 times faster than PLC-based electronic controls), combined with the hydraulic proportional valves, provides a parallelism precision of about 0,1 mm.



HMB SYSTEM

Heavy-duty multiple bearing

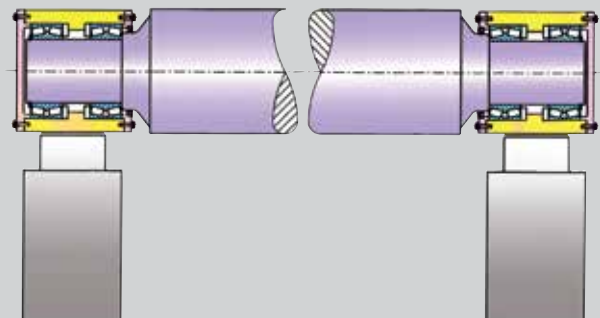
Each bending roll is supported by 4 heavy-duty self-aligning spherical roller bearings (double row type).

Each bearing is oversized in order to withstand the whole bending load.

Thanks to this exclusive design, with four oversized bearings fitted into a swiveling housing, the roll can freely deflect along its full width during the rolling process.

This guarantees an optimal distribution of the load on the supports even during the cone rolling process and increase the machine reliability and life.

Moreover, the multi bearing system with swiveling housings design greatly reduces the maintenance and the need of lubrication (permanent lubrication).



Great options and Accessories

Improved performances

Even though your Parmigiani TBH in standard configuration comes with an extensive package of features that are usually not available – not even as options – on our competitors' machines (like FACILE®, our i-Diagnostic and many others) our R&D department has also designed a wide range of accessories such as top supports, side supports etc.



OTHER MACHINES FROM PARMIGIANI

4-roll Advanced Plate Bending Rolls
VBH



3-roll Variable Axis Plate Bending rolls
PCO



Plate Straightening Machines
SLH



Universal Section Bending Machines
PLANET



Dishing Presses and Automatic Manipulators
DPO-MAP



Tank Heads Flanging Machines
FM-HY



PARMIGIANI

ADVANCED BENDING TECHNOLOGY

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