

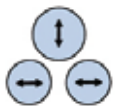
# **PARMIGIANI**

ADVANCED BENDING TECHNOLOGY



**3-ROLL VARIABLE AXIS PLATE BENDING ROLLS**

**P C O**



# A passion for machines

A family story made of passion and innovation.

It was in 1927 when Ernesto Parmigiani started his activity.

Three generations have worked through the decades for the best customer satisfaction, applying the most advanced manufacturing technology in order to improve our end-user quality and productivity.

Embodying almost a century of PARMIGIANI experience, the present generation of bending machines can count on a long tradition and a unique know-how in this field.

Parmigiani is the only manufacturer of bending machines in the world that has always been managed from the family of its founder since 1927, the year of its foundation.

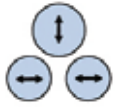
No one else in our sector can guarantee such continuity in terms of product quality and customer service.



**PARMIGIANI type PCO 4600x130 (15'x5") built in 1967**

## 3-roll Variable Axis Plate Bending Rolls **PCO Hydrotronic**





I 3-ROLL VARIABLE AXIS PLATE BENDING ROLLS PCO

# Presenting the all new PCO Hydrotronic

## What can you expect from the new PCO-Series rolls?

Expect a new state-of-the-art machine to give you more precision and more power than anything in the industry.

Expect the best linear guiding system with anti-friction sliding technology and proportional-controlled digital parallelism system.

All are designed to capitalize on the new machines enhanced performance and capacity.

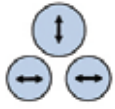
Providing you a solid, stable result with every rolling pass.





# Exceeding your expectations





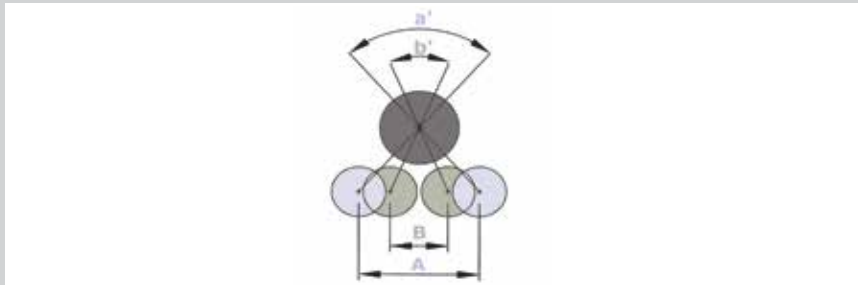
# Better design for better performances

## The PCO series set the industry standard

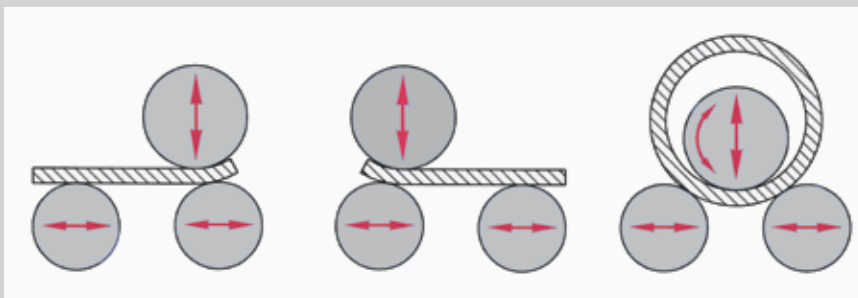
Highest power, absolute pre-bending precision and maximum flexibility are amongst the main features of our PCO plate rolls.

All three rolls are moving independently from each other: the lower rolls slide along the horizontal axis, whereas the top roll moves vertically.

In this way, it is possible to adjust the distance between the bending points and the roll, so as to work in the ideal conditions both with high and low thickness plates.



Our PCO machines give you the possibility of prebending perfectly any plate, working “like a press brake” and they always maintain the plate horizontal, allowing running all rolling operations in complete safety. The machine is also equipped with last generation brakes that avoid any plate slipping.

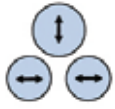


## PCO-Series manufacturing range:

Plate thickness from 6 up to 300 mm (0.25" to 12.0")

Length from 1.000 up to 8.000 mm (3' to 26')





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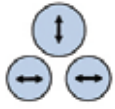
# Discover the PCO rolls





# We redefine rolling standards

- 1** Full frame design for maximum rigidity and precision
- 2** Machine frame with linear guides for rolls sliding
- 3** Instantaneous brakes for rolls rotation for maximum safety factor
- 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** Infinitely variable speeds, controlled from centralized control panel
- 12** Infinitely variable bending pressure of the upper roll with digital pressure gauge
- 13** Wired with light-cables against electromagnetic interference
- 14** Fully hydraulic drive with automatic speed compensation



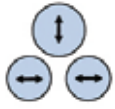
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# Designed to perform



## Built for heavy works





# Extended diagnostic in real time

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

## i-Diagnostic®

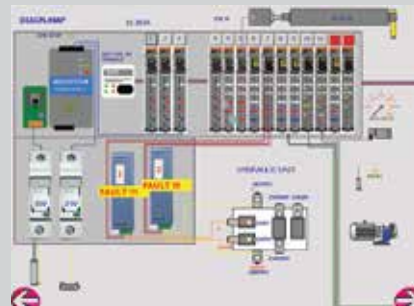
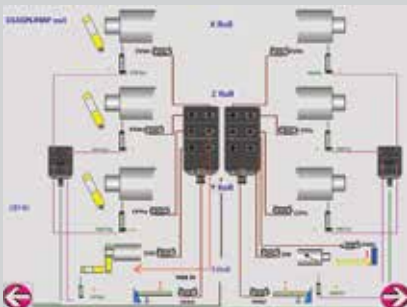
### Active extended diagnostic: a revolution in customer support.

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.

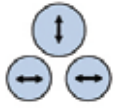




Everything is under control







# Digital-proportional control of the working pressure

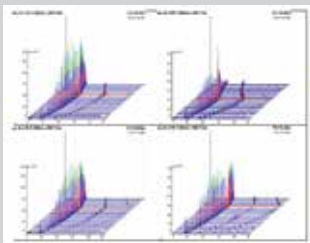


## PPP System

### Pressure Peaks Prevention

Pressure peaks are among the worst enemies of your machine, because they reduce significantly the life of all its components.

The unrivalled Parmigiani PPP System will make you save energy and prolong the life of the entire hydraulic and mechanical system, thus reducing the need for maintenance, spare parts and machine downtime.



## IVP System

### Intelligent Variable Pressure

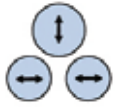
Our exclusive IVP System constantly controls the system working pressure, reducing power losses and oil heating when this is not necessary.

The results? Improved efficiency and lower operating costs.



Absolute precision. Total reliability.  
Standard on all our machines.





# Rolling precision is a must!

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

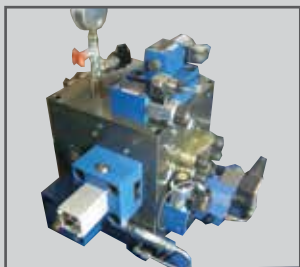
## PPS SYSTEM

### 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 also is another critical point. 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 top and bottom 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.



## HYDROTRONIC SYSTEM

### Advanced hi-tech hydraulic system

The hydraulic system is the operative core of your PCO: it runs everything from the bending rolls drives up to their movement and tilting, as well as all other machine attachments.

This is why we invested a lot in research and development: to give you a smooth, precise and highly responsive system.

Through the digital control system you can manage the machine pressure and flow, using dedicated proportional hydraulic valves. In this way you can select the most convenient speed for each production step (vs. machines from other manufacturers offering only one or two selectable speeds!) and the maximum pressing force of the top roll, adapting it to the characteristics of the plate being worked.

The possibility to select low pressures for thin plates also widely extends the production range of the machine.

As a result, thanks to the infinitely variable adjustment of pressure and speed, the operator will have full control over the process in any bending situation.

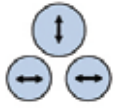


# Increase your productivity

## Cut down production costs







I 3-ROLL VARIABLE AXIS PLATE BENDING ROLLS PCO

# Great options and Accessories

Improved performances





# Advanced design

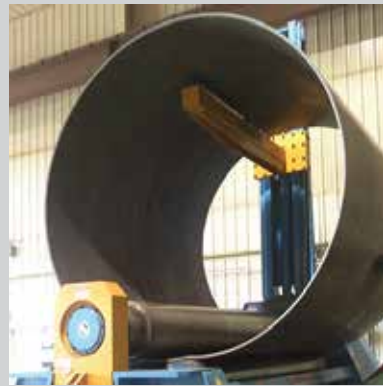
## Options

Even though your Parmigiani PCO 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, the calibration working mode, the Servo-dynamic Active Control and many others) our R&D department has also designed a wide range of accessories for special bending applications.

Side plate support devices, upper support, rolls conveyor table for plate squaring and feeding and much more: the PARMIGIANI range of options is comprised of various components which significantly enhance the handling dynamics of your Parmigiani PCO.

The upper and the side plate supports devices are supplied linked with our **SERVODYNAMIC ACTIVE CONTROL SYSTEM. SERVO-DYNAMIC** because they have variable positioning speeds: “high” for fast positioning and “low” for creep adjustment and soft contact with the plates.

**ACTIVE**, because you can control at any time their working pressures through the digital read-out placed on the control panel.



Upper Supports



Rolls conveyor tables



Side supports

## OTHER MACHINES FROM PARMIGIANI

3-roll Double Pinch Plate Bending Rolls  
TBH



4-roll Advanced Plate Bending Rolls  
VBH



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

[www.parmigiani.net](http://www.parmigiani.net)

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