Hydraulic Plate Roll Accessories

- **Electronic Thickness Control** (Soft and Small Thickness Materials)
  - Available for models:
    - 4 Rolls (MCH-4R)

- **Automatic Centralized Lubrication System**
  - Available for models:
    - 4 Rolls (MCH-4R) and 3 Rolls (MCH-3RP)
    - Standard in Very Heavy Duty Models

- **Hydraulic Upper Support**
  - Available for models:
    - 4 Rolls (MCH-4R) and 3 Rolls (MCH-3RP)

- **Hydraulic Regular Side Support**
  - Available for models:
    - 4 Rolls (MCH-4R) and 3 Rolls (MCH-3RP)

- **Hydraulic Articulated Side Support**
  - Available for models:
    - 4 Rolls (MCH-4R) and 3 Rolls (MCH-3RP)

- **Automatic Ejectors**
  - Available for models:
    - 4 Rolls (MCH-4R)
Hydraulic Plate Roll Bending Machine

Quality is not result of chance, but a result of our dedication and technological expertise.

TECHNOLOGICAL BENDING CONCEPT: LINEAR GUIDE SYSTEM
Anti-wear pillow blocks support the side and bottom rolls. Respective hydraulic cylinders support the linear movement of rolls up and down along the two frames of the rigorously constructed machine.

ADVANTAGES OF MARCOVIL STÖLTING LINEAR GUIDE SYSTEM:
1) The strength of side rolls is transmitted directly to the hydraulic cylinder, therefore to machine frame and foundation of the machine. Direct forces over the anti-wear pillow blocks are neutralized improving and ensuring the rolls parallelism. Greater precision of the side rolls movements improve longevity of components and reduce maintenance.
2) Reduced distance between the center of side roll and center of top roll ensure flat end associated to pre-bending is consistent and minimal.
3) The axis of each side roll is controlled independently, the machine can accurately make small adjustments in the position of the roll. Cone bending applications are much easier to perform.

ROLL PARALLELISM
For the material to be correctly aligned after bending it is extremely important side rolls and the bottom roll remain parallel during the linear movement. Both axis of each roll must be synchronized. Marcovil Stölting’s precise electronics control parallelism with a tolerance of .2 millimeter. A linear sensor reads and transmits each roll axis position to the integrated PLC control. The PLC manages the electro-valves confirming synchronization of roll axis.

INDEPENDENT ROLL MOTORIZATION
Each roll has independent motorization providing greater accuracy and bending control, benefits include:
1) Increased traction and control during bending operations;
2) Increased torque improving efficiency and reducing bending time;
3) Simpler control in applications with conical geometry;
4) Rigorous calibration of the bent parts, lower roll is relieved and traction is provided from side rolls.

NC CONTROL SYSTEM – STANDARD
FEATURES:
• Maintains roll parallelism
• TEACH IN Mode: allows recording axis values of side rolls in the existing table of roll position
• Automatic Mode: reproduces previous bending operation
• Automatic mode controls position of the rolls; (6 axis). Rotation manually made by the operator.
• Edit Mode: create programs by filling existing table of roll position
• Stores up to 1000 programs in TEACH IN mode
• Each program stores up to 50 steps of roll positioning
• 1 rotation speed
• Optional: 2 rotation speeds with frequency inverter
• 2 speeds for up / down movement of rolls
• Language Mode: available in: English, German, Portuguese, Spanish, French, Russian

CNC CONTROL SYSTEM – OPTIONAL
MARCOVIL STÖLTING develops and produces the most viable and complete CNC Control for Hydraulic Plate Roll Bending Machines.
FEATURES:
• Maintains roll parallelism
• Controls all 6 axis position movement of rolls (side and bottom) as well as rotation axis for a total of 7 axis control
• Automatic Mode, with creation of direct bending programs. Operator enters parameters; thickness, plate length, final diameter required. The CNC control performs the necessary bending operation.
• Automatic Mode, TEACH IN function; reproduces previous bending operation
• Edit Mode: create programs by filling existing table of roll position
• Integrated industrial PC with high processing capacity and program storage. USB Door integrated, to remove and insert new programs
• Each program allows up to 80 steps of roll positioning
• Frequency inverter included
• Language Mode: available in: English, German, Portuguese, Spanish, French, Russian
• World Innovation: Electronic-Hydraulic System, control plate thickness during bending operations, reducing the risk of damage to soft materials. Greater accuracy maintaining original material thickness after bending (OPTIONAL, NOT INCLUDED).

About This Brochure
We have tried to make this brochure comprehensive and factual. We reserve the right to make changes at any time without notice to prices, colors, materials, equipment, specifications, models and availability. Brochure may have been updated since the time of printing.
Hydraulic Plate Roll Bending Machine

**GREATER BENDING CAPACITY**

- Minimum bending radius as tight as 1.2 times roll diameter at maximum thickness and length with proper material specifications

**IMPROVED BENDING PERFORMANCE**

- Roundness
- Alignment
- Small and consistent Flat End

**NOTE:** Stated values based on properly cut certified plate material in Mild steel.
### 3-Roll Hydraulic Plate Roll Bending Machine

3 Roll Plate Bending Machines are capable of demanding roll bending applications. Pre-bending operation is applied by pressing pressure between the side and upper roll. The symmetrical arrangement of the side rolls make pre-bending possible from both sides without changing the sheet. The bending operation continues by moving the side rolls to create appropriate radius.

- Linear guide system for roll movement
- Solid steel construction
- Steel frames in S355JR (A572) welded and CNC machined
- All rolls independently driven
- Rolls in 42CrMo4 (ASTM 4140)

- Rolls supported in 4 anti-wear pillow blocks (3-Roll)
- Rolls supported in 6 anti-wear pillow blocks (4-Roll)
- Spherical drop end to absorb the axial forces
- Perfect electronic parallelism of the side rolls (with NC System - 3-Rolls) (with CNC or NC System - 4-Rolls)

### 4-Roll Hydraulic Plate Roll Bending Machine

The powerful hydraulic system on 4 Roll Plate Bending Machines offer greater precision in the bending process. Clamping pressure between lower and upper roll during bending is highly consistent when complex pre-bending operation are required. The symmetrical arrangement of the side rolls make pre-bending possible from both sides without changing the sheet. The bending operation continues by moving the side rolls to create appropriate radius.

- Hydraulic overload protection
- Cone bending operation
- Inclination of the side rolls (3-Roll)
- Inclination of the bottom and the side rolls (4-Roll)
- Cone device in hardened wear plate
- Variable speed (CNC model only)
- Hardened rolls (50-55 Hrc)
- Movabe control panel
- Manual central lubrication system
- Safety cable emergency stop system
- Built accordingly CE safety directives
- CE Certified

### Specifications

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<th>Model</th>
<th>Useful Length</th>
<th>Ø Top Roll</th>
<th>Power</th>
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### Capacities Based on Mild Steel with Yield Point .039" to 6" and Length Capacity from 19.5" to 236".

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### 2-Roll Hydraulic Plate Roll Bending Machine

Standards models available with thickness capacity from .083" to 6" and length capacity from 19.5" to 236".

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### Capacities Based on Mild Steel with Yield Point .039" to 6" and Length Capacity from 19.5" to 236".

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### 3-Roll Hydraulic Plate Roll Bending Machine

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