

4 ROLLS BENDING MACHINES – R4C TYPE

- The comfort of a 4-roll machine with the flexibility of a 3-roll machine
 - Hydraulic machines - 4 driven rolls
 - Speed and position-synchronised rolls
- Prebends edges with no turning around of the plate
 - Minimal flat portion of trailing ends
 - Easy cone rolling - Calibration
- Pinch roll swivels out and is pressure-adjustable
 - Hydraulic opening head

Capacity : 8 - 50 mm* - Useful length 4 m

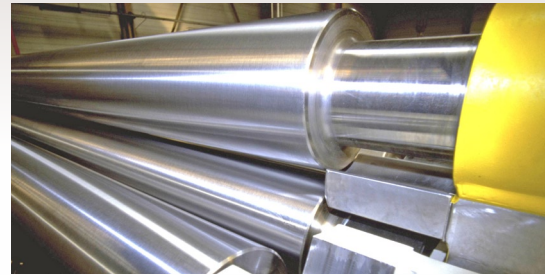
Design

- > Mechanically welded, generously sized steel section frame. Extreme stiffness facilitates machine levelling and anchoring.
- > **Frame design and assembly** ensure a perfect geometry with no deflection over time regardless of load. The wide space around the hinged bearing assembly and the

retractable brake permit rolling all types of cones, providing very good visibility.

- > **The full enclosure** provides optimal operator and machine component protection.

Rolls



- > Rolls are **high-quality steel** with selected and traceable properties.
- > **Rolls are shaped to application** : their profile is designed for optimal results within a known capacity range to eliminate defects at capacity limits.

- > **A polished finish** prevents damage to prefinished parts, even parts in such highly sensitive materials as prelacquered aluminium, Reynobond type composite materials, etc.

- > **Optional roll hardening** ensures optimal service life, even in the case of intensive usage on steel, stainless and high-yield steels. Hardening methods used ensure a surface hardness of between 45 and 65 HRC.

Functions

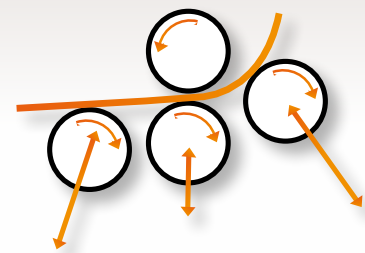


Movement

- > The bottom rolls move independently in rectilinear guideways.
- > Each roll is moved by two double-acting hydraulic cylinders.
- > Force transmission is direct to maximise performance.
- > The use of proportional valves allows highly precise control of roll movement.
- > Pinch roll pressure is adjustable while a pressure controller prevents plate lamination. Control of parallelism and roll tilt for cone rolling is electronic and the pinch roll is retractable. This system ensures optimal setup with no readjustment during operation. This technology requires no additional mechanical means of moving and controlling the rolls. The absence of wearing parts significantly reduces the frequency and cost of maintenance.

Rotation

- > The roll-and-bearing assembly procures maximum reliability and minimum maintenance. All roll bearings are pressure lubricated by a central pump (manual or automatic control, depending on model).
- > The 4 rolls are driven by heavy-duty hydraulic motors or geared hydraulic motors on the shaft ends to prevent power loss.
- > Direct hydraulic roll control ensures precise workpiece movement in the machine, notably during prebending. All hydraulic actuators are centrally controlled.
- > A calibrated pressure relief device prevents overpressure of both the hydraulic cylinders and the geared hydraulic motors for maximum operational safety.
- > At equal performance, all components (motor, pump, valves, piping, etc) are selected for reliability.



R4C 235-30 NC (US version)
(10 mm in 3m)*



Prebending of strong thickness
with 4 rolls



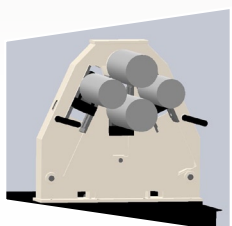
R4C 350-30 NC
(25 mm in 3m)*



Series production in strong
thickness



Minimum bending diameter



4 rolls design

* with S235 material

Control systems

Picot type R4C roll bending machines use hydro-electronic controls (with or without Numerical Control).

Wheeled control panel with proportional valves

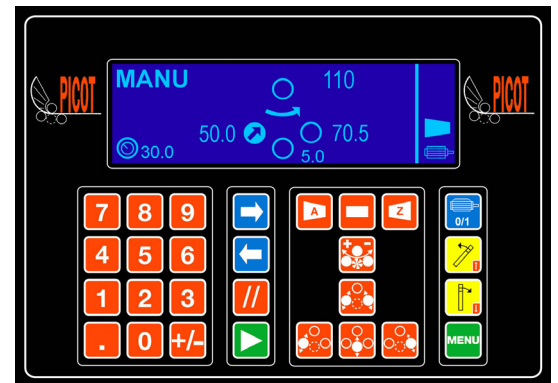
■ Controls



Roll parallelism and tilt control is fully electronic :

- > **No deflection, no adjustment over time.**
- > Graduated potentiometer on the control panel for cone bending.

■ Interface



Direct movement control by proportional manipulators. Instantaneous display of roll positions and current movements.

All controls are located in a wheeled control panel for better visibility of the workpiece during bending :

> **Optimised** roll movement control by precise, heavy-duty manipulators :

- front pinch roll up/down
- rear pinch roll up/down
- coupled rolls up/down
- pinch roll up/down
- rotate all rolls clockwise/anti-clockwise.

> **28 pictogram keys** for easy, intuitive use.

> **High-legibility** fluorescent graphic screen prevents eye strain.

Numerical control option

R4C roll bending machines may be optionally equipped with a numerical control system. The system allows the series production of technical parts, ensuring high precision and very good repeatability.



- > Memory capacity: 500 programmes of 50 steps
- > Fourteen alphanumeric programming characters
- > Simple selection from a list of programme titles



- > Memory stick storage of machine programmes and parameters
- > USB interface for programme management and editing on PC.



R4C 235-30 NC (10 mm in 3m)*



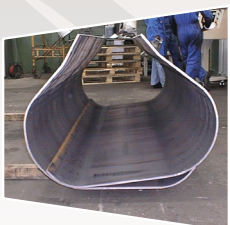
Bucket for public works



Roll bending of strong thickness



Multiple radius design



Series production

* with S235 material

