

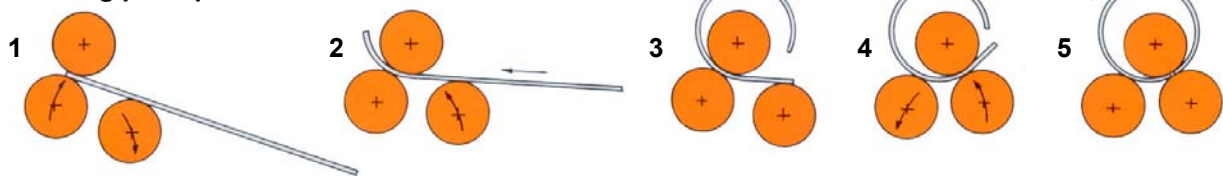


# ROUND O Heavy Duty Plate Bending Machine Type PSS 550 – 1000

With capacity up to 100 mm plate thickness and plate width up to 6000 mm



## Working principle



- Double pinch/pyramid design, provide the full capacity to prebend both leading and trailing edges of the plate.
- Since both lower rolls are adjustable individually, prebending of both edges is done without removing, turning or reinserting the plate.
- With the rolls in the pyramid setting for larger diameters, the bending capacity will increase dramatically.
- Hydraulic infinitely variable drive on all three rolls via separate hydraulic motor for each roll.
- Automatic speed compensation between the top roll and the lower rolls. This means that all three rolls always drive the plate with max. needed torque without any losses of power.
- Hydraulic adjustment of the two lower rolls.
- Electronic parallel control of the two lower rolls as well as tilting control for easy conerolling.
- Electronic speed adjustment directly in the control-panel via joysticks.
- Hydraulic erection of the top roll for easy removal of the bent plate.
- Hydraulic operation of the end yoke.
- SKF spherical roller bearings in all journals.
- Digital readouts showing the position of the lower rolls, both ends.

**Placing of the rolls:**

The top roll is journalled in spherical bearings in the motor frame and in the hydraulically operated drop end. The two lower rolls, as well journalled in spherical bearings, are independently adjustable by double acting hydraulic cylinders.

The lower rolls adjusted in a curved path.

**Adjustment of the rolls:**

Adjustment of the lower rolls is done by four hydraulic cylinders, one at each end of lower rolls.

The parallel holding is done through the electronic control unit with an accuracy of +/- 0,1 mm.

Both lower rolls can be adjusted individually.

The adjustment speed is variable between 0 – 500 mm/min.

**Frame:**

The location of the rolls enables effective absorbing of the total bending power in an egg-formed design making the machine strong and rigid.

All parts of the frame are heavily proportioned. There is no part of the frame exposed to high torsional forces or bending stresses. The frame is of all-welded design and of course stress relieved.

**Operation:**

The machine is operated from a turnable control desk at the drop end side of the machine or control desk on wheel. The functions are controlled by joysticks and push buttons.

**Optional equipment:**

- Cone bending attachment
- Electromechanic operated top support
- Hydraulic operated side support
- Complete CNC controlled machine

**Technical specifications** – See technical data sheet for each machine

The tilting of the drop end and the balancing of the top roll is done electro-hydraulically. These two functions are electrically secured in order to avoid mistakes at the tilting of the drop end.

**Drive:**

All three rolls are driven through three slow running hydraulic motors. Each motor drives one roll. The motor for the top roll gives ≈ 50 % of the total effect and the high drive possibility due to friction between the top roll and the plate gives a precise feeding of the plate.

The drive of the two lower rolls is made by the other two hydraulic motors, which are mounted as separate drive units and following the adjustment of the rolls. This design allows tilting of the lower rolls in order to facilitate cone rolling.

The power for the hydraulic motors is created by three variable piston pumps. The angle of the pump for the top roll is automatically adjusted so that all three motors always work with the same pressure. The rolling speed is infinitely variable from 0 to 7 m/min.

**Bearings:**

All rolls are journalled in spherical SKF roller bearings, resulting in very low friction losses and a minimum of maintenance.

This type of roller bearing allows friction losses to be kept to approx. 6 – 8 % while the friction losses for plain bearings, at the speed in question, would be 30 – 40 %.



PSS 700 x 4000

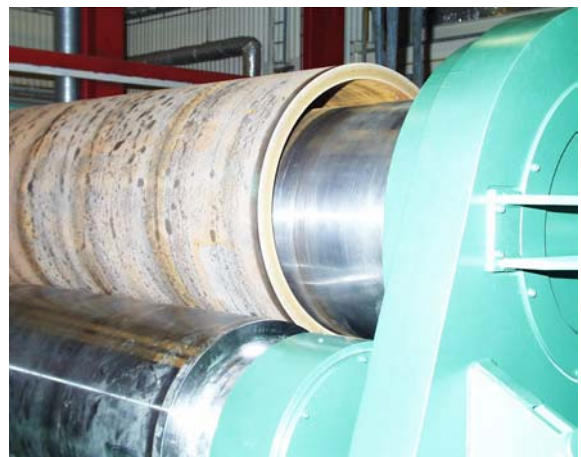


Plate rolled to diameter less than 1,1 x top roll