Plate Bending Machines

Product overview PB Series designed by SweBend
Productivity in mind

No matter whether in the chemical industry, offshore sector, energy sector, in tank construction, mechanical engineering and shipbuilding: Many industries have been processing thick plates with a particularly high material quality. In particular through the thriving energy and offshore sector the demand for thick plates made of high-quality materials has increased seriously over the past years. This branch of industry uses plates with a thickness ranging from only a few millimeters up to 200 millimeters, the processing of which requires correspondingly high forces.

Often, the metals used in sheet metal processing have particularly high yield strengths. The work pieces behave in a correspondingly exacting manner during forming, as the material – in particular in combination with small bending radii – has a high spring back capacity.

Here, machines with a stable frame construction are crucial. Further aspects which need to be taken into consideration when deciding in favor of a plate bending machine concern productivity, efficiency, capacity, quality and operator convenience. In the end, these properties decide about the efficiency and competitiveness of plate processing companies.

Added value through service
Services such as servicing and maintenance, spare parts supply and repairs by the manufacturer represent further important selection criteria. In the medium to long-term, they contribute considerably to the efficiency of machines and the whole production. A comprehensive care by the manufacturer should be provided across the full machine life.

It is precisely at this point where the bending solutions from Schwarze-Robitec start. We know the current industry requirements of customers precisely and set new standards for plate processing of the future. With our technical experience in the field of special-purpose mechanical engineering and the industry experience of SweBend we can offer you the correct solution for long-term success.
Precise and efficient production

When developing our plate bending machine series PB we paid particular attention to process efficiency, stability, precision, user-friendliness and safety. The result: our machines are best fitted for efficient manufacturing processes. High speeds and minimized throughput times are achieved by the high drive torque and high speed.

From the smaller version for plates with a material thickness of only a few millimeters all the way to our sturdy machines for heavy plates of up to 125 millimeters: we have the right solution for every bending order. Thanks to the design and the powerful construction of the machine, spring-back is prevented and an optimum bending result is guaranteed.

Time efficient and resource-saving
The PB series stands for fast and resource-saving production. We have designed our plate bending machines according to the double-sided prebending principle. This technology provides you with three benefits:
• Minimal residual lengths
• Minimizing processing steps
• Up to three times shorter production times

With our double-sided prebending principle, plates can be bent on both sides without having to turn the plate. This results in only minimum residual lengths of 1.5- to 2-times the plate thickness. As there is no need for additional processing steps for bending the ends, production time is also up to three times shorter.

In proven Schwarze-Robitec Quality
Your strong partners
Schwarze-Robitec is your specialist and technology partner for high-performance and future-proof bending solutions. At our main location in Cologne our 130 employees develop and produce unique, durable and innovative bending machines with passion, innovative talent and experience. With more than 2,400 delivered CNC machines we contribute to our customers’ success worldwide.

Strong Partners – Powerful Machines
Together with SweBend we developed the section bending machine series SB and plate bending machine series PB. The Swedish enterprise, headquartered at Hässleholm has long-term experience in the sector of plate and section bending technology. With SweBend we pool our strong competence in experience and know-how regarding the development and production of high-performance bending machines and produce highly-modern section and plate bending machines according to state-of-the-art design methods for our customers. Benefit from the efficiency, stability and reliability of these machines.
Our modular configurable machine and accessory program offers you maximum flexibility. A plate bending machine matched precisely to your specific production requirements contributes considerably towards maximizing your productivity. It is therefore our mission to find the best possible solution together with you. We do not produce and sell systems “off the shelf.” Instead, we start each new project with a detailed consultation. This is how we, together with you, find the best bending solution for your task. We have tailor-made solutions for even the most complicated production tasks.

**Rolls for every bending challenge**
We fit the PB series machines with special rolls according to your requirements. You can choose, among others, between chrome-plated and hardened rolls or special rolls, for example for sinusoidal plates.

**CNC control with touchscreen**
For simple operation, the 4-rolls machines are fitted with the newly developed, intuitively operated “Seven” CNC control. With this work simplifying option, products such as cylinders, containers as well as complex shapes such as ellipses and special products with dispersing radii can be produced quickly and effortlessly. Equipped with a touch screen, the network-compatible CNC control contributes towards short configuration and thereby ultimately reduced production times.

**Holding devices**
To prevent damage to the work pieces, we recommend using our lateral holding devices and upper plate supports. These support the plate and prevent unintentional deformation, simplify work processes and increase operator safety.

**Our aftersales service – always by your side**
From the supplying of spare parts to on-site machine maintenance, and even system optimization, we’ll be by your side for whatever you need. By your side with our experts who know the precise requirements your industry demands. This is also how we are able to ensure smooth, continuous production runs after the initial commissioning.
The rolls arrangement of the PB4 machine version

The 4-rolls plate bending machine consists of three movable and one stationary rolls which can be moved to one another. Either one can speak of a symmetry between the movable lower rolls and side rolls or of an asymmetry, depending on the respective rolls position. The side rolls (A and B) can be adjusted independent of each other on a defined linear path. The top roll (C), however, is firmly defined in its position and the lower roll (D) can be adjusted vertically.

*The rolls length is 50 millimeters longer than the specified rolls length, e.g. a 1525 mm machine has a rolls length of 1575 mm.*
**Diversity of shape of the PB4 machine version**

The bending of plates is conducted with the use of modern 4-(CNC) plate bending machines. The variety of shapes is very large. Half-shells, conical curves, transitions and rings can be bent. The smallest possible diameter is close to the diameter of the top rolls, depending on plate thickness and material. The largest possible diameter is determined by the plate length and thickness.

We recommend a machine with 4 rolls for complex tasks. Its high flexibility is a decisive advantage. On the PB plate bending machine with 4 rolls non-cylindrical shapes such as ellipses and square tube shapes can also be bent.

![PB3 Swing arm](image)

The swing arms of the PB3 machines are of high quality. Manufactured of a single part, these swing arms are stronger and more precise than swing arms commonly available on the market.

### Plate Bending Machines PB-Series

<table>
<thead>
<tr>
<th>Model</th>
<th>Length mm</th>
<th>Prebending PB 1,5*TRD mm</th>
<th>Prebending PB 3*TRD mm</th>
<th>Circular Bending RB 3*TRD mm</th>
<th>Circular Bending RB 5*TRD mm</th>
<th>Circular Bending RB 8*TRD mm</th>
<th>Top Roll Diameter mm</th>
<th>Extra Top Roll Smallest Diameter mm</th>
<th>Lower Roll Diameter mm</th>
<th>Daylight mm</th>
<th>Max Bending Force t</th>
<th>Drive Torque Nm</th>
<th>Power requirement kW</th>
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Brought into perfect shape

PB3-8-4

Rolls length in feet
Top roll diameter in inch
Number of rolls

PB3-8-4 = 3 rolls, top roll diameter 8” (203 mm), Roll length 4 ft. (1.250 mm)

Perfectly controlled

CNC Control System “Seven”

High operator convenience contributes decisively to productivity. That’s why our machines can be operated cable-free but also with an innovative CNC control. The CNC control “Seven” makes work so much easier and is easy to understand. “Seven” is available in 3 levels:

“Seven“ Bronze
- Control panel on wheels with joysticks, switches and buttons
- User friendly and state-of-the-art interface
- Designed for basic machines, including positioning of two side rolls and rotation
- Interpolation possibility included, i.e. movement of one side roll and rotation simultaneously
- Totally 3 axes (Left + Right + Rotation) in basic configuration
- Easy to upgrade to add optional axis

“Seven“ Silver
- As “Seven“ Bronze
- Parallel Control of bending rolls
- Totally 7 axes in basic configuration
- Import and export programs
- Create program externally and export later to the machine

“Seven“ Gold
- As “Seven“ Silver
- 49 cm (19”) TFT touch screen for the Interface
- Control all possible optional equipment
- Advanced wizards and low-level control
Our company is ISO 9001 certified.
Specifications subject to change without notice. Errors and omissions excepted.