



FOLDING MACHINE  
**PowerBend Professional**

# „THE NEW“ PowerBend Professional

Success Story Part II: „THE NEW“ PowerBend Professional is our revised folding machine with even more flexible application possibilities. It is the professional solution for thin sheet metal processing and continuous operation in large workshops, mid-sized companies and the industry.



Rear view PowerBend Professional



Folding beam lowering with servo drive and ball screws and servo controlled folding center adjustment.

The PowerBend platform is based on decades of experience in industrial folding machines. It was engineered using state of the art tools, and finite element analysis. The resulting rigid frame provides a base from which the PowerBend achieves unmatched speed, precision, and operational efficiency. Thanks to the optionally available segmented tools on all beams, superior drive technology and advanced electronic control, the PowerBend Professional can handle complex geometries and difficult bending requirements with ease.

At the same time the machine offers the flexibility your company needs for the production of short runs and prototypes. With the hydraulic tool clamping device and the optional rotating clamping beam, set up times can be drastically reduced. The result is a considerable increase in productivity.

**NEW**

## New Features

- Clamping beam stroke 500 mm for product heights up to 250 mm
- 2 servo drives for continuous commuting of the folding beam for Up and Down
- Servo-controlled folding beam adjustment
- More precise and faster positioning of the rotation point, servo-controlled
- Safety package Plus
- LED status display
- Energy-efficient drives according to IE3
- Optimized for industry 4.0
- Prepared interface to product handling systems
- Completely new machine design and swivelling panel



#### Standard equipment

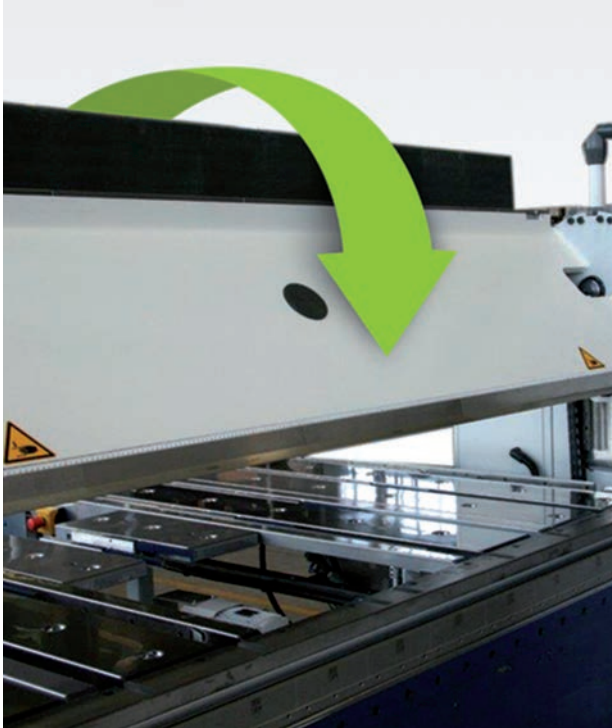
Software control	<ul style="list-style-type: none"> <li>– POS 2000 Professional PC based graphic control with touchscreen on swivelling arm</li> <li>– Radius function</li> <li>– Remote maintenance (connection via RJ45 network cable to be provided by customer)</li> </ul>
Clamping beam	<ul style="list-style-type: none"> <li>– Clamping beam stroke: 500 mm</li> <li>– Clamping beam geometry: 48° or optionally 180°</li> <li>– Drive: 2 x 2.2 kW, 65 mm/sec, axis with recirculated ball screws</li> <li>– Axis inclination of clamping beam</li> <li>– Tool clamping device, hydraulic (WZS 2000)</li> </ul>
Folding beam	<ul style="list-style-type: none"> <li>– Drive: 2 x 3.0 kW (converter controlled, 100°/sec)</li> <li>– Adjustment, motorized: 150 mm</li> <li>– Folding centre adjustment, motorized: +80/-20 mm (converter controlled)</li> <li>– Crowning device, motorized</li> <li>– Tool clamping device, pneumatic (WZS 15100)</li> </ul>
Bottom beam	<ul style="list-style-type: none"> <li>– Bottom beam blade ca. 1 100 N/mm<sup>2</sup> surface-hardened (nitrated), one-piece with finger grooves; minimum gauge 10 mm</li> </ul>
Back gauge system	<ul style="list-style-type: none"> <li>– Sheet support table with gauge up to 1600 mm (closed; 2 sectors with pneumatic lowering device, sheet support table with balls; recirculated ball screws (+/- 0,1 mm))</li> </ul>
Others	<ul style="list-style-type: none"> <li>– Standard machine without folding- and clamping beam tools</li> <li>– Footswitch</li> <li>– Anchor plates incl. dowels</li> <li>– LED status display</li> </ul>

#### Special equipment

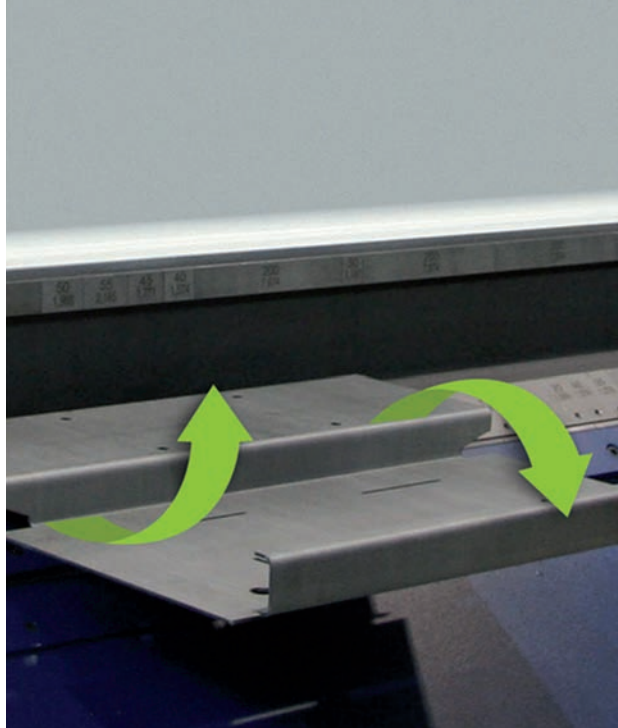
Clamping beam	<ul style="list-style-type: none"> <li>– Rotating clamping beam for two tool stations incl. hydraulic tool clamping device on both sides (WZS 2000)</li> </ul>
Up and Down-Technology package	<ul style="list-style-type: none"> <li>– Operation from the front and the rear</li> <li>– When operating from the front: only up-bends possible</li> <li>– External programming</li> <li>– Up and Down bottom beam blade, one-piece, ca. 1 100 N/mm<sup>2</sup>, 30°, R 1/1.5/3 with finger grooves, minimal gauge 10 mm</li> <li>– Folding beam adjustment 150 mm (converter controlled)</li> <li>– U-gauge up to 1600 mm (2 sectors, balls in table)</li> <li>– Access security in front via light barrier</li> <li>– 2nd footswitch on rail for lateral movement</li> <li>– 2 servo drives for continuous commuting of the folding beam for Up and Down</li> <li>– Suction plates in gauge table with 6 suction units, program-controlled incl. positioning against the folding beam</li> <li>– Folding beam adjustment with servo drive and recirculating ball screws</li> </ul>
Safety	<ul style="list-style-type: none"> <li>– Additional equipment for 2-man-operation control in accordance with accident prevention rules required</li> <li>– Additional operation from the rear (2nd footswitch and access security in front via light barriers)</li> <li>– Safety package Plus: Light barrier package front, horizontal light barrier in operator lane, RFID switch to secure the side doors</li> <li>– Footswitch on rail for lateral movement</li> </ul>
Others	<ul style="list-style-type: none"> <li>– Voltage transformer 12 kVA and air conditioner</li> <li>– Options for back gauge, page 5 and 11, tools page 7, software page 8-9</li> </ul>

# Options for increasing ergonomic efficiency

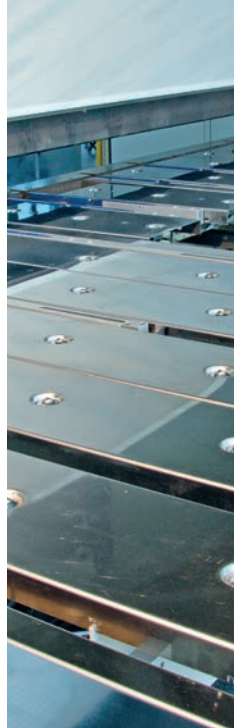
The PowerBend Professional comes extensively equipped to handle most jobs with ease. And for specific requirements, additional options are available, adding even more production efficiencies.



The rotating clamping beam offers a second set of tools and an alternative machine geometry.



Up and Down function: counter folds without turning around the sheet.



Fast changing jobs or complex tasks with different tools – the PowerBend Professional is open to all customer requirements. With the optional, rotating clamping beam the PowerBend Professional always has ready a second set of tools as well as an alternative machine geometry. – that creates clearances in your production. Where the set-up of other folding machines is extremely time-consuming, the PowerBend Professional is running without interruption and reduces set-up times.

## Up and Down bi-directional folding beam

You will love this option: The Up-and-Down-folding beam allows counterfolds in one processing step, e.g. boxes with Z-folds. With the Up-and-Down function

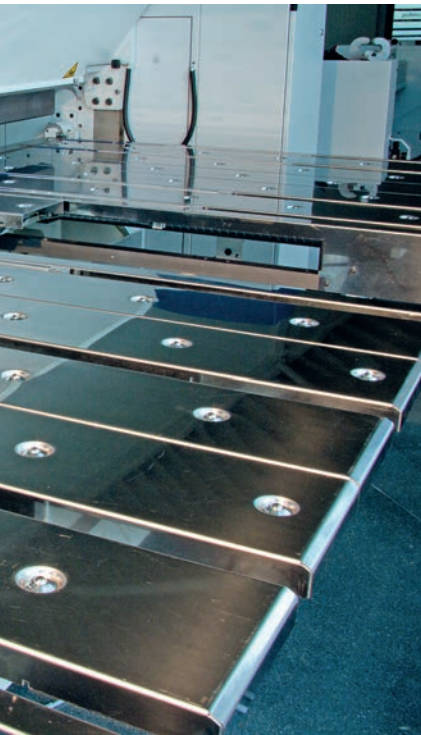
the folding beam is able to move around the work-piece, being able to fold from below and from above. For counter foldings the sheet therefore does not need to be turned around. Especially for big sheet this means: less helping hands, less muscle power, lower level of risk for material surfaces. In short: better ergonomics, safety and productivity.

Thanks to the folding beam adjustment with servo drive and recirculating ball screws, faster and dynamic positioning of the axis is possible. In addition, the commuting of the folding beam between up and down folds is performed by two servomotors. This leads to shorter setup times when changing the folding beam tools.



# Gauge options for optimal handling

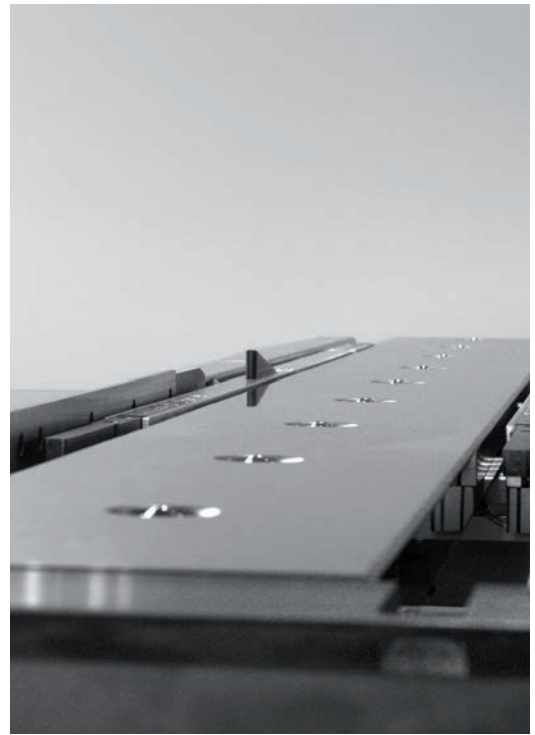
We provide you with different table- and back gauge systems that are best suited to your requirements. Sheet handling that is ergonomic for the operator and gentle to the material.



U-gauge with balls in the table for better sheet handling



Suction plates in gauge table with 6 suction units, program-controlled incl. gauging against the folding beam (only for Up and Down).



Pneumatic pop up square arms assembled aisle side and gauge fingers ensure a precise positioning of the sheet.

In the standard version the PowerBend Professional offers a sheet support system with a gauge from 10 to 1,600 mm. In order to be able to fold slim sheets exactly at a right angle, you can optionally acquire two fixed square arms on the left and right side.

In addition you have the possibility to extend the back gauge to a J or U shape. The 1,600 mm gauge forms the basis (see page 11). For this gauge options we can also offer you pneumatic pop up square arms at the operator lane that e.g. provide an ergonomically convenient method of aligning parts to tooling stations.

## Exact positioning of the sheet

The motorized gauge of the PowerBend Professional ensures highest precision: It uses high precision ball screws to an accuracy of  $\pm 0,1$  mm.

An interesting and extremely efficient alternative of positioning a sheet, is the option of using the folding beam as a front gauge feature. This allows you to measure the part that needs to be bend.

## Option: Gauge with suction plates

The PowerBend Professional is the only machine in its class that now also offers a pneumatic fixing of sheets as complement to the back gauge system:

Plates with suction cups: The suction gauge takes effect where the pop-up gauge fingers have no reliable grip if the work piece on the gauge side e.g. has cut-outs or roundings. One great advantage: The sheet gets pneumatically fixed and thanks to the intelligent software control all folds on one side can be carried out with one single manual action.

# Tools

Use the right tool for the job – Schröder understands this better than anyone else. With high-quality tools from Schröder you achieve exact folding results and are able to fold radii with highest precision.



NEW: Clamping beam stroke of 500 mm for product heights of 250 mm.



The hydraulic tool clamping device on the clamping beam reduces set-up times.

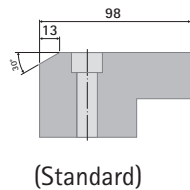
When it comes to the bending process the right tool is essential – with the PowerBend Professional we can push all limits. For every product we can offer you the suitable tool for the clamping-, bottom- and the folding beam. Should you require a particular geometry, just let us know. We will work out a customized solution for you.

Thanks to optional segmented tools on all beams, superior motorization and a pathbreaking software control, the PowerBend Professional handles the most demanding folding tasks and the most difficult materials.

The increased clamping beam stroke of 500 mm allows the use of higher tools and therefore product heights of up to 250 mm.

## Tool options

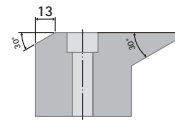
Bottom beam tools  
WZS\* 16300 / 16400



(Standard)

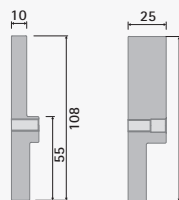
Bottom beam blade, one piece, 55 mm high, minimum gauge 10 mm, with finger grooves, surface-hardened (nitrated) ca. 1 100 N/mm<sup>2</sup>

Bottom beam blade, segmented, 55 mm high, minimum gauge 10 mm, with finger grooves, surface-hardened (nitrated) ca. 1 100 N/mm<sup>2</sup> not in combination with Up-and-Down function)



W "cpf" Fqy p"  
Dqwwqo "dgco "dræfg."  
one piece, 55 mm high, 30°, R 1/1.5/3 minimum gauge 10 mm with finger grooves, surface-hardened (nitrated) ca. 1 100 N/mm<sup>2</sup>

Folding beam tools, pneumatic clamping  
WZS 15100

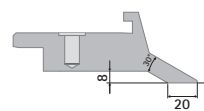


Folding blade, segmented 10/15/20/25 mm, 108 mm high, ca. 1 100 N/mm<sup>2</sup> surface-treated (phosphated)

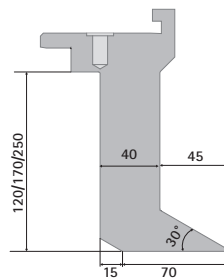
Clamping beam tools, hydraulic clamping, ca. 1 100 N/mm<sup>2</sup> surface-treated (phosphated)  
WZS 2000



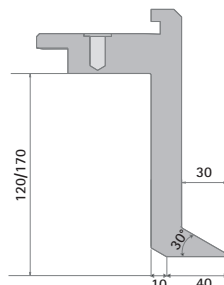
Sharp nose blade 20°/30°, R 1/1.5/3 divided



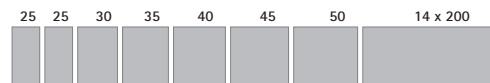
Tinsmith blade 20°/30°, R 1/1.5/3 clearance on the rear 8 mm, foot width 20 mm, divided, s = 2.0 mm



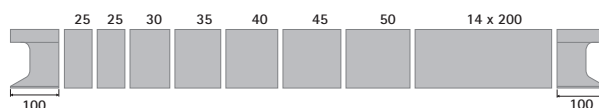
Goat's foot blade 20°/30°, R 1/1.5/3 120 mm, 170 mm or 250 mm high, clearance 45 mm, foot width 85 mm



Goat's foot blade 20°/30°, R 1/1.5/3 120 mm/170 mm high, clearance 30 mm, foot width 50 mm



Example: segmentation of folding blades at a working length of 3,240 mm (segmentation varies according to working length)



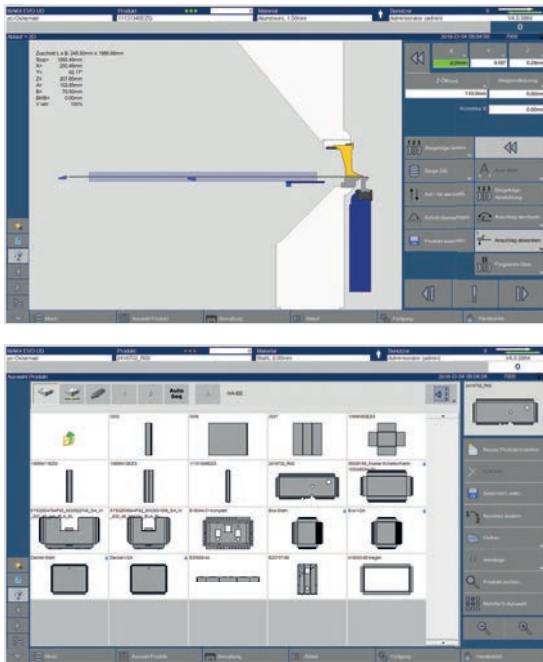
Example: segmentation of goat's foot tool at a working length of 3,240 mm (segmentation varies according to working length)

Option: additional pair of passive driven corner parts

\* WZS = Tool system

# POS 2000 Professional

Intelligent graphic control for efficient processing



Graphic control POS 2000 Professional:  
the result always in front of your eyes -  
from the first steps to simulation

The PowerBend Professional owes its high processing speed, precision and efficiency to the powerful software control POS 2000 Professional with touchscreen mounted on a swivelling arm. This software is known in the industry as „the“ software control for folding machines - proven and fully developed .

The POS 2000 Professional visualizes every processing step - through it, the folding machine, work piece and tools are schematically shown. The product is confirmed in a virtual mode prior to putting the sheet on the back gauge table, so the operator can form the part with 100% confidence. All necessary actions such as turning a sheet are displayed in separate steps.

In short: Whether programming, running a simulation for a feasibility check or time study, or manipulating a part on the machine, the POS 2000 Professional supports your operation like no other can.



## Highlights

- Windows 10 operating system
- Unlimited profile storage
- Automatic cut length calculation
- Unlimited tool storage and materials library
- Accurately scaled virtual bending simulation
- Zoom function
- Speed of CNC-axes infinitely variable
- Radius Function
- Remote maintenance

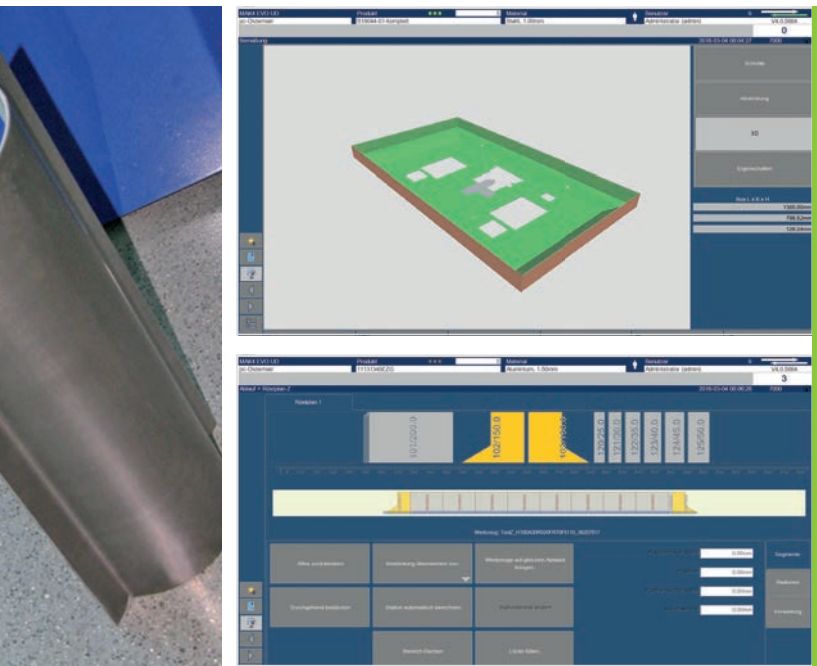
## Options

- External programming  
(POS 2000 Professional PC version)
- Positioning against the folding beam



# POS 3000 3D-graphic control

Visualize quality: POS 3000 3D-graphic control with simulation



The easy to understand graphics present a clear visual interaction between the part, the machine and the tools. Sophisticated parts are easily understood.

The POS 3000 software control allows you to import DXF, BPX and GEO-files. Hence the most important product- and folding parameters can be imported automatically and without any intervention of the operator. Using this function, all shapes of a sheet can get displayed and the operator can choose between additional gauge options. This means substantial time savings and has the additional advantage that the operator does not have to program the workpiece that has to be bent.

With the POS 3000 software, the machine, tool, and work piece are all clearly displayed. The operator bends the part visually beforehand on the screen and checks the result in the 3D bending simulator. This ensures a perfect processing of the sheet. Once a bending program has been created they can be called up again quickly, checked visually, and corrected according to material requirements.



## Highlights

- 3D-graphic control incl. schematic depiction of the machine, tools and work piece
- Intuitive, visual touchscreen-programming
- 3D-bending simulator for visual program inspection
- Cycle time calculator
- Radius-Step-Bending function
- External programming (POS 3000 PC version)
- CAM-connection
- ERP/PPS-interfaces
- DXF, BPX and GEO-import
- Remote maintenance
- Unfold software „SCHRÖDER Unfold“
- Prepared interface to product handling systems
- Industry 4.0 ready through OPC UA

# Dimensions and technical data

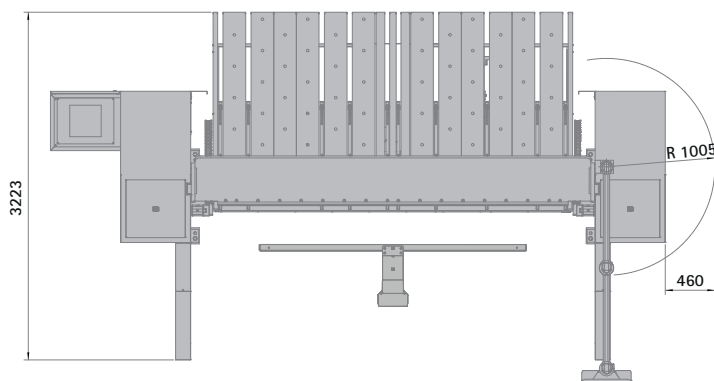
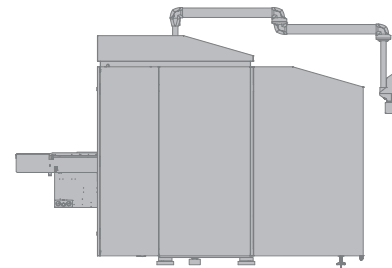
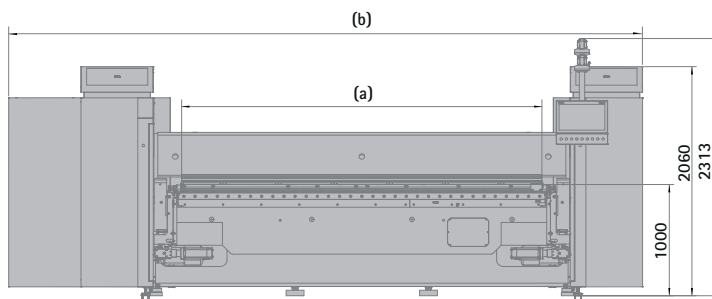


Segmented goat's foot blade,  
hydraulic tool clamping

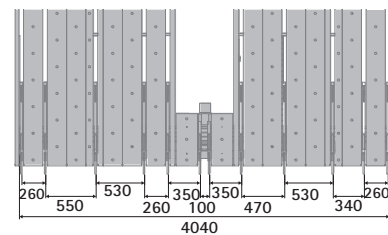
PowerBend Professional	5'422"6"5.2	6'222"6"4.7
Working length (a)	3 240 mm	4 040 mm
Sheet thickness 400 N/mm <sup>2</sup>	3,0 mm	2,5 mm
Machine length (b)	5700 mm	6500 mm
Machine height with swivelling arm	2313 mm	2313 mm
Machine width with back gauge (c)		
1 600 mm closed table	3223 mm	3223 mm
U-1600	3223 mm	3223 mm
U or rather J-3200	4955 mm	-
U or rather J-4000	-	5743 mm
Weight of basic machine (ca.)	6 700 kg	7 600 kg
Clamping beam		
Geometry	48° (180°)	48° (180°)
Stroke	500 mm	500 mm
Drive power	2 x 2,2 kW	2 x 2,2 kW
Speed	65 mm/s	65 mm/s
Folding beam		
Drive power	2 x 3,0 kW/2 x 3,0 kW	2 x 3,0 kW/2 x 3,0 kW
Speed	85/100 °/s	85/100 °/s
Folding beam adjustment, motorized	80 (150) mm	80 (150) mm
Folding center adjustment	+80/-20 mm	+80/-20 mm

All specifications are considered as guidelines and may be subject to changes at any time.  
\* Differing specifications for the Up-and-Down function are in brackets.

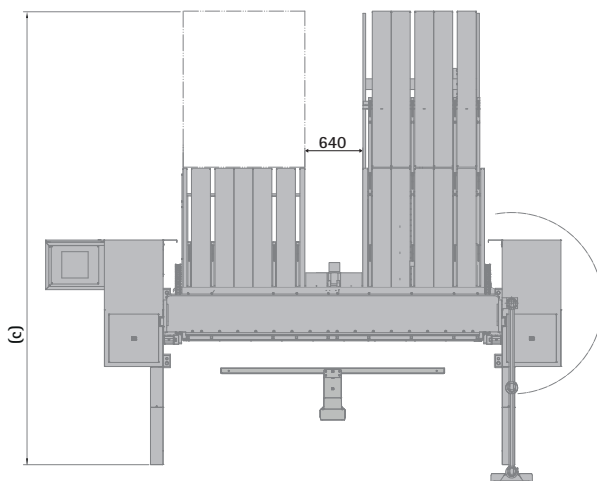
## Dimensions: PowerBend Professional



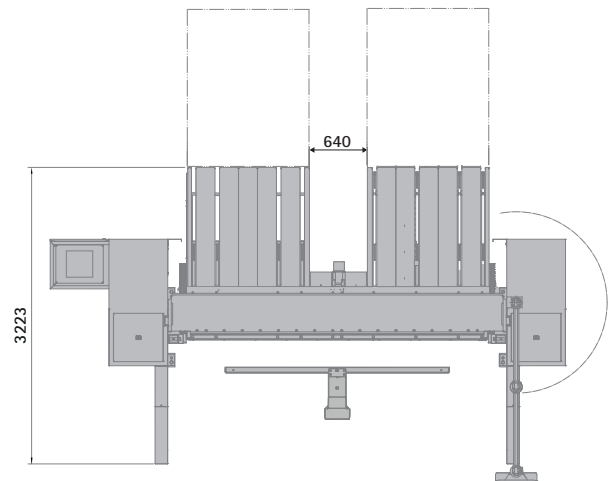
Finger distance for working length  
4,040 mm



## Special back gauge extensions



J-shape 3,200/1,600, 4 x 800 mm  
J-shape 4,000/1,600, 5 x 800 mm



U-shape 1,600, 2 x 800 mm  
U-shape 3,200, 4 x 800 mm  
U-shape 4,000, 5 x 800 mm

All dimensions in mm

Standard colour: RAL 7035 light grey, RAL 5003 sapphire blue. Special painting at an extra charge.



## Schröder Group

The Schröder Group consists of Hans Schröder Maschinenbau GmbH, which is located in Wessobrunn, Germany, SCHRÖDER-FASTI Technologie GmbH, located in Wermelskirchen, Germany and the SMU GmbH, located in Leinburg-Weißenbrunn.

Founded in 1949, Hans Schröder Maschinenbau GmbH unifies traditional and modern approaches in machine building: Successfully managed as a quality and customer-oriented, family-owned company, Hans Schröder Maschinenbau is specialized in the development of modern machine concepts for bending and cutting sheet metal.

The successful integration of the Fasti Company in 2006 and its worldwide presence make the Schröder Group one of today's leading providers of machines for bending, cutting, beading, flanging, and circular bending all types of sheet metal. The company's precision machines range from proven solutions for craftsmen to innovative, high-performance machines for automatic industrial production processes. 2021 the Schröder Group was expanded by the tool manufacturer SMU GmbH. Overall, the Schröder Group currently employs more than 300 people at various locations at home and abroad.

All information provided as a guide only  
and subject to change at all times.  
HSM 220413EN

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GROUP