SCHRÖDER GROUP

FOLDING MACHINE

PowerBend Industrial UD

PowerBend Industrial UD

The PowerBend Industrial UD is our professional solution for reliable and efficient operation in heavy production industrial shops. This powerful, motorized folding machine expands the portfolio of the PowerBend-series.

PowerBend Industrial UD in operation - signalized by green production status indicator lights (option). 2nd monitor for operation on the rear - movable via guide rail.

Operation from the front: monitor in front of the machine integrated into the casing - movable.

Just as the PowerBend-series, the folding machine PowerBend Industrial was engineered using finite element analysis as well as latest computer simulations. Decades of experience in industrial folding result in a rigid frame that provides a base from which the PowerBend Industrial UD achieves unmatched precision and operational efficiency.

The PowerBend Industrial UD has been showcased at EuroBlech exhibition in 2016 with a working length of 3,200 mm for bending steel sheets up to 6.0 mm thickness. This machine can also be acquired at a working length of 4,000 mm for steel sheets up to 5.0 mm thick.

Highlights

- Unique robustness, reliability and repeat accuracy
- Production of single pieces and prototypes
- Patented, hydraulic Up-and-Down system
- Clamping beam stroke of 650 mm
- Tool positioning display alongside the clamping beam
- Bilateral drives on the clamping- and the folding beam achieve extremely fast clamping and folding speeds
- Two touch-panels for easy operation from the front and the rear side of the machine

Standard equipment

PowerBend Industrial UD	
Software control and options	– Graphic control POS 2000 Professional – Monitor in front of the machine integrated into the casing - movable – 2nd monitor on the rear movable via guide rail – PC version (external programming), 1. licence – Remote maintenance – Radius function
Clamping beam	– Drive: 2 x 3.0 kW (converter-controlled, recirculated ball screws) – Stroke: 650 mm – Geometry: 180° – Hydraulic tool clamping (WZS 2000) – Axis inclination of clamping beam – Tool positioning display alongside the clamping beam
Folding beam	– Up'n Down folding beam, program-controlled – Drive: 2 x 5.5 kW (converter-controlled, trapezoidal spindle) – Hydraulic tool clamping (WZS 15100/15200) – Motorized folding beam adjustment: 160 mm – Motorized folding center adjustment: +80/-15 mm – Central crowning device, motorized
Bottom beam	- Bottom beam blade 30°, one-piece with finger grooves, minimal gauge 20 mm, ca. 1100 N/mm² surface-hardened (nitrated) (WZS 16200)
Gauge	– Positioning gauge as U-shape: 20 - 1600 mm 2 sectors, pneumatically lowerable, sheet support table with balls, recirculated ball screws (+/- 0,1 mm)
Work safety	– Access security in front via light barriers – 2nd foot switch on rail for lateral movement – Protection from the clamping beam / portal via light barrier
Others	– Standard machine without clamping beam- and folding beam tools – Air conditioner – Foot switch – Anchor plates incl. dowels

Options for efficiency and ergonomics

The PowerBend Industrial UD is already a productivity gain in its standard equipment. In order to add even more production efficiencies additional options are available.

Special equipment	
Technology package 3D	– POS 3000 3D-Graphic control DXF-Import and more processor capacity – Suction plates in gauge table with 4 suction units, program-controlled incl. positioning against the folding beam – 2 fixed square arms (left + right side) – 2 pneumatic pop-up square arms assembled aisle side
Back gauge	Back gauge extension to J- or U-shape. Basis: U-gauge 20 - 1600 mm – J-shape: 1600/3200 or 1600/4000 – U-shape: 3200 mm or 4000 mm – 2 fixed square arms (left + right side) – 2 pneumatic pop-up square arms assembled aisle side
Safety	Additional equipment for 2-man-operation control in accordance with accident prevention rules required
Ohters	– Production Status Indicator Lights – Overseas packaging – Voltage transformer 30 kVA – Optional tools: please see page 6-7 – Optional software: please see page 8-9

U-gauge with balls in table and suction gauge for smooth handling of the sheet

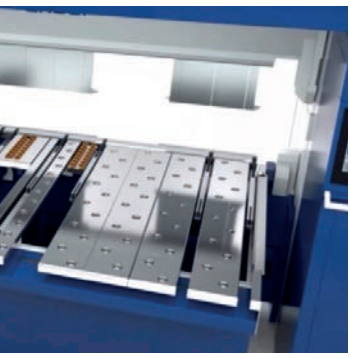
Up-and-Down folding beam

You will love this function: The Up-and-Down-folding beam allows counterfolds in one processing step, e.g. boxes with Z-bends. With the Up-and-Down function the folding beam is able to move around the work-piece, being able to bend from below and from above. For counter foldings the sheet therefore does not need to be turned around. Especially for big sheets this means: less helping hands, less muscle power, lower level of risk for material surfaces. In short: better ergonomics, safety and productivity.

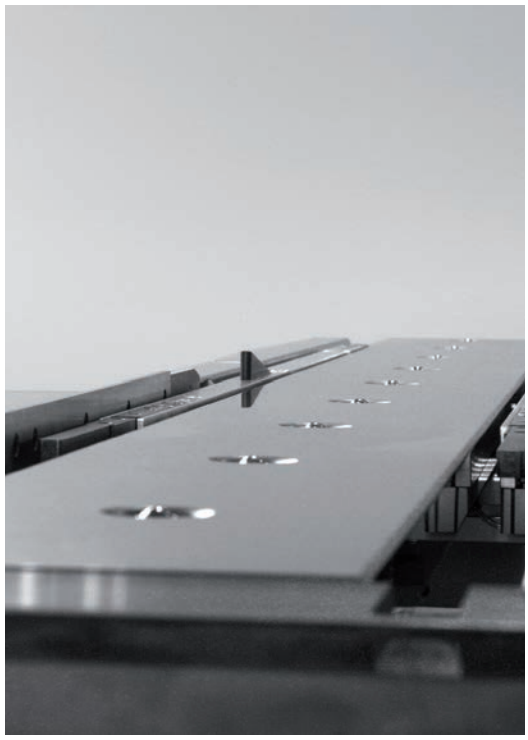
The Up-and-Down folding beam consists of two converter-controlled drives (5,5-kW) capable of a speed of 90°/sec.

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.



With the optional suction gauge all bends on one side can be done with one simple action by the operator.



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

Back gauge

In the standard version the PowerBend Industrial UD offers a sheet support system with a gauge from 20 to 1600 mm. Two sectors are pneumatically lowerable. In order to be able to bend slim sheets exactly at a right angle, you can optionally acquire two fi xed 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 1600 mm U-gauge forms the basis.

In order to ensure highest precision during the bending process, the motorized back gauge consists of high precision ball screws with an accuracy of ±0,1 mm.

Optional suction plates

The suction gauge is an optional extension of the back gauge and enables a pneumatic fixing of sheets. Sheets can be gauged precisely against the folding beam and get fixed by suction cups. The software control recognizes the position of the sheet and starts the processing step. Afterwards the suction gauge positions the sheet automatically for every bend on that sheet - thanks to the Up-and-Down-folding beam with folds and counterfolds and without any intervention by the operator.

Tools

Use the right tool for the job - Schröder understands this better than anyone else. With high-quality tools from Schröder your are able to fold exactly and to bend radii with highest precision.

Use of 300 mm high tools are possible

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

Great variety of tools

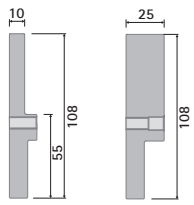
Thanks to various tools the PowerBend Industrial is able to handle most complex folding tasks. For every product we can offer you a wide range of segmented tools, that can be changed fast and easily thanks to a hydraulic tool clamping device. The clamping beam stroke of 650 mm enables the use of 300 mm high tools and offers a lot of space when processing bulky work pieces.

Highlight: Tool positioning display

A special feature of this machine:
The correct positioning of clamping beam tools is visualized by an integrated LED bar over the total length of the clamping beam. The folding program visualizes the position of the tools by a tool positioning display - extremely practical e.g. if you want to set up two different tool stations on the clamping beam.

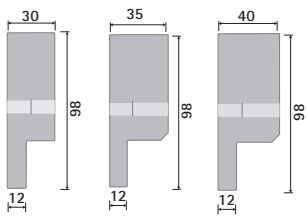
Tool options

Folding beam tools, hydraulic clamping surface-treated (phosphated) WZS 15100 / 15200



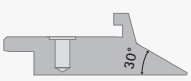
Folding blades segmented
10/15/20/25 mm,
108 mm high,
ca. 1100 N/mm²
(WZS 15100)

For every folding blade width, one set of locking plates is required

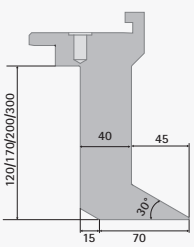


Folding blades segmented
30/35/40 mm,
98 mm high,
ca. 1100 N/mm²
(WZS 15200)

Clamping beam tools, hydraulic clamping, ca. 1 100 N/mm² surface-treated (phosphated) WZS 2000

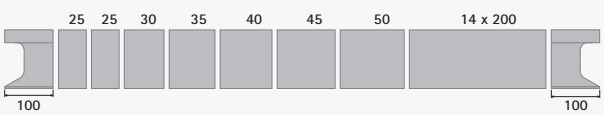


Sharp-nose blade
20°/30°, R 1/1.5/3,
divided



Goat's foot blade
120/170/200/250/
300 mm high,
20°/30°, R 1/1.5/3,
clearance 45 mm
foot width 85 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 blade at a working length of 3,240 mm
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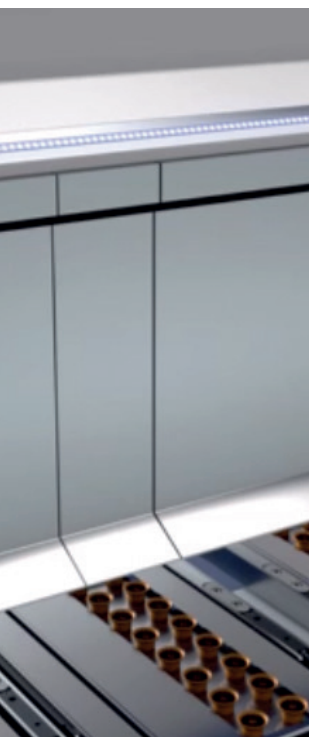


Standard:
Tool positioning display

When it comes to the bending process the right tool is essential - with the PowerBend Industrial we can push all limits. For every poduct 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.

Always tidy: Use our practical tool cart for blades, rails and segmented tools as optional equipment.

Standard: POS 2000 Professional

Intelligent graphic control for efficient sheet metal processing

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

The PowerBend Industrial UD owes its high processing speed, precision and efficiency to the powerful software contol 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 confi rmed 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 7 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
- External programming
  (POS 2000 Professional PC-Version)
- Remote maintenance

Option: POS 3000 and „Schröder Unfold“

POS 3000 3D-graphic control
with simulation

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 bend.

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.

Unfold software „Schröder Unfold“

User interface of “SCHRÖDER Unfold” software - clear and easy user guidance

Umcomplicate and simple – Unfold software „SCHÖDER Unfold“

In order to coordinate hardware and software perfectly, Schröder Maschinenbau developed an unfold software to calculate the blank size and program with effortless precision.

Step-files are imported into Schröder unfold, they are unfolded to create the fl at pattern, calculating cut size, notch development, and internal geometry placement. The last step is the creation of the flat profile in a DXF format that can be exported for use in the blank creation process - thus the machine program gets created.

For more information please read our brochure about software controls and the unfold software.

Dimensions and technical data

Clamping beam stroke of 650 mm leaves room for tall work pieces.

PowerBend Industrial UD	3,200 x 6.0	4,000 x 5.0
Working length (a)	3,240 mm	4,040 mm
Sheet thickness 400 N/mm²	6.0 mm	5.0 mm
Machine length (b)	5,078 mm	5,878 mm
Machine height max.	2,610 mm	
Machine width with back gauge (c)		
U-1600	3,033 mm	
U- or rather J-3200	4,490 mm	-
U- or rather J-4000	-	5,290 mm
Weight of basic machine (ca.)	12,600 kg	15,200 kg
Clamping beam		
Geometry	180°	180°
Stroke	650 mm	650 mm
Drive power	2 x 3,0 kW	2 x 3,0 kW
Speed	65 mm/s	65 mm/s
Folding beam		
Drive power	2 x 5,5 kW	2 x 5,5 kW
Speed	90°/s	90°/s
Adjustment, motorized	160 mm	160 mm
Folding center adjustment	+80/-15 mm	+80/-15 mm

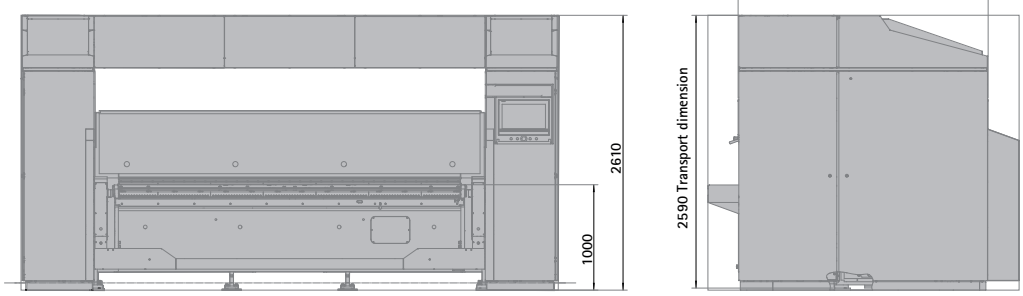
All specifications are considered as guidelines and may be subject to changes at any time.

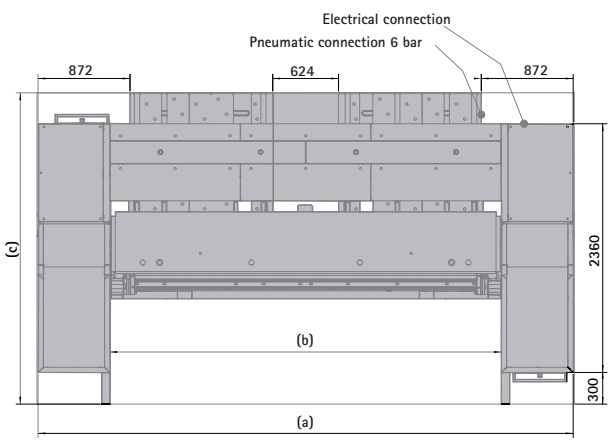
With the PowerBend Industrial, Schröder Group presents a motorized folding machine that brings together speed and performance better than ever before. This unique machine aims at serial production and bends up to 6 mm thick steel sheets upwards and downwards. It is characterized by a 650 mm clamping beam stroke and 300 mm high tools.

Drives

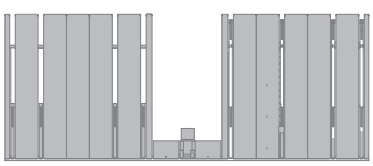
The generously designed dual drives on the clamping beam, two times 3 kW converter-controlled, enable an extremely fast opening and closing of the clamping beam (65 mm/sec). This speeds up not only the clamping of the sheet for the next fold, but also a popular alternative use: step by step bending of the clamping beam against the folding- and the bottom beam (Radius-step bending).

Dimensions: PowerBend Industrial UD

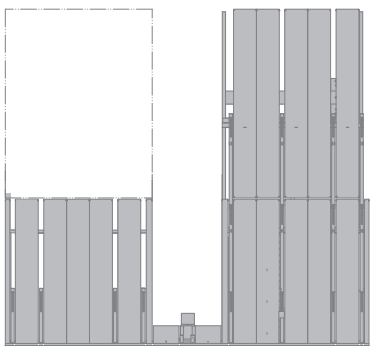




Special back gauge extensions



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



J-shape 3 200/1 600, 4 x 800 mm
J-shape 4 000/1 600, 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, and SCHRÖDER-FASTI Technologie GmbH, which is located in Wermelskirchen, Germany.

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. Overall, the Schröder Group currently employs more than 270 people at various locations at home and abroad.

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