SCHRÖDER GROUP

FOLDING MACHINE

PowerBend Universal

PowerBend Universal

The versatile solution for lean sheet metal forming in a wide variety of metal forming applications.

The name speaks for itself: This folding machine is designed to meet the demands in a wide range of applications. Its flexibility through applications up to 4 mm steel is the result of Hans Schröder Maschinenbau's decades of experience in industrial sheet metal folding.

The PowerBend Universal provides the perfect balance between technology and performance. It was engineered using state of the art tools and finite element analysis.

The standard control system is designed for programming simple profiles and parts. Anyone can program with the nano Touch, making it the perfect machine for a wide array of production requirements. For increased production and efficiency without increased complexity.

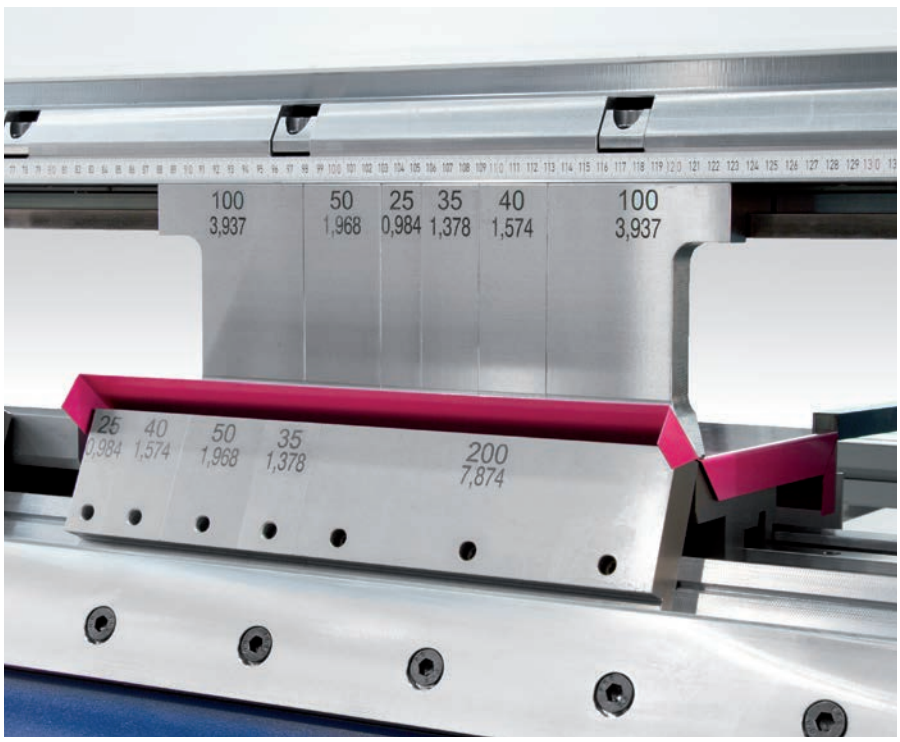
A reinforced drive of the folding beam increases the bending performance by 1 mm

Standard equipment	
Control software	– "nano Touch"- control on swivelling arm – Radius function
Clamping beam	– Drive: 3.0 kW, middle motor, (controlled through contactors, 20 mm/sec), trapezoidal spindle – Stroke: 350 mm (325 mm with manual clamping device) – Clamping beam geometry: 48° or 180° choosable – Manual tool clamping device (WZS 020)
Folding beam	– Drive: 2 x 2,2 kW (controlled through contactors, 48°/sec) – Adjustment, manual: 80 mm – Manual tool clamping device (WZS 15000/15100)
Bottom beam	– Bottom beam blade one-piece ca. 1 100 N/mm² surface-hardened (nitrated), minimum gauge 10 mm
Others	– Foot switch – Anchor plates incl. dowels – Standard machine without folding- and clamping beam tools

Special equipment	
Control software	– Technolgoy package nano Touch: converter package (for folding beam- and clamping beam drive), folding beam 85°/sec, 2x 2,2 kW drive; 65 mm/sec, with recirculated ball screws, motorized folding beam adjustment 80 mm – Technology package POS 2000 Professional: incl. folding- and clamping beam, converter-controlled, folding beam 85°/sec, 2x 2,2 kW drive; 65 mm/sec, with recirculated ball screws, motorized folding beam adjustment 80 mm, remote maintenance – POS 2000 Professional PC Version (external pogramming)
Clamping beam	– Hydraulic tool clamping (WZS 2000)
Folding beam	– Power-Package folding beam increases the bending capacity by 1 mm: reinforced drive incl. folding blade 35 mm (1 100 N/mm²) requires converter package (in combination with sharp-nose blade WZS 020, bending angle restriction to max. 140°) – Clamping device, pneumatic – Folding beam adjustment motorized: 80 mm – Central crowning device, manual (only in combination with WZS 15100) – Central crowning device, motorized (only in combination with POS 2000 Professional and motorized folding beam adjustment)
Machine operation	– Additional equipment for 2-man-operation control in accordance with accident prevention rules required – Operation from the rear in addition (2nd foot switch and access security in front via light barriers) – Foot switch on rail for lateral movement, voltage transformer, air conditioner
Gauge options and tables	– Motorized back gauge up to1600 mm, closed, 2 sectors with pneumatic lowering device, sheet support table with balls, recirculated ball screws (± 0,1 mm) – 2 fixed square arms (left + right) – 2 pneumatic pop up square arms (only in combination with POS 2000 Professional) – U shape and J shape gauges in various depths

Your options

The PowerBend Universal offers you a lot of possibilities – you decide what level of technology fits your individual requirements.



Manual clamping device: segmented tools provide flexibility for a variety of geometries

Fine tuning: crowning system manual or CNC crowning sytems

The PowerBend Universal in its standard configuration is already a versatile machine. And when specific needs arise you can be confident that we support the right set of machine specific options so you can build in the right set of intelligent features and capabilities.

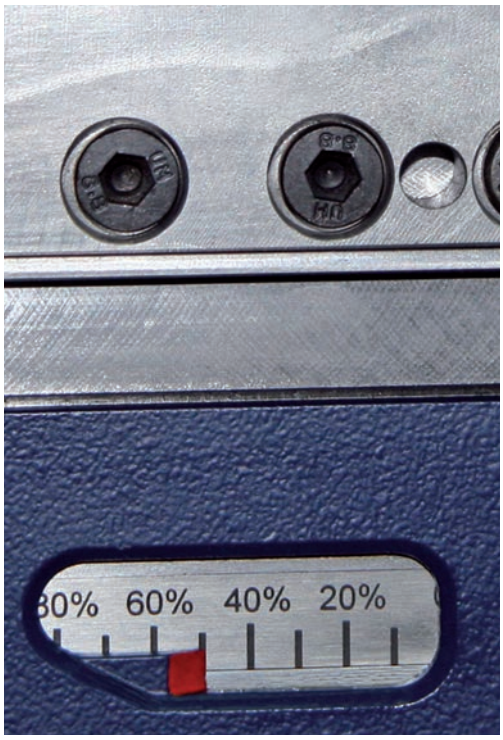
Even more power

The "Power-Package" option offers a reinforced drive system, increasing the capacity on the PowerBend Universal to 5 mm mild steel for even more bending power.

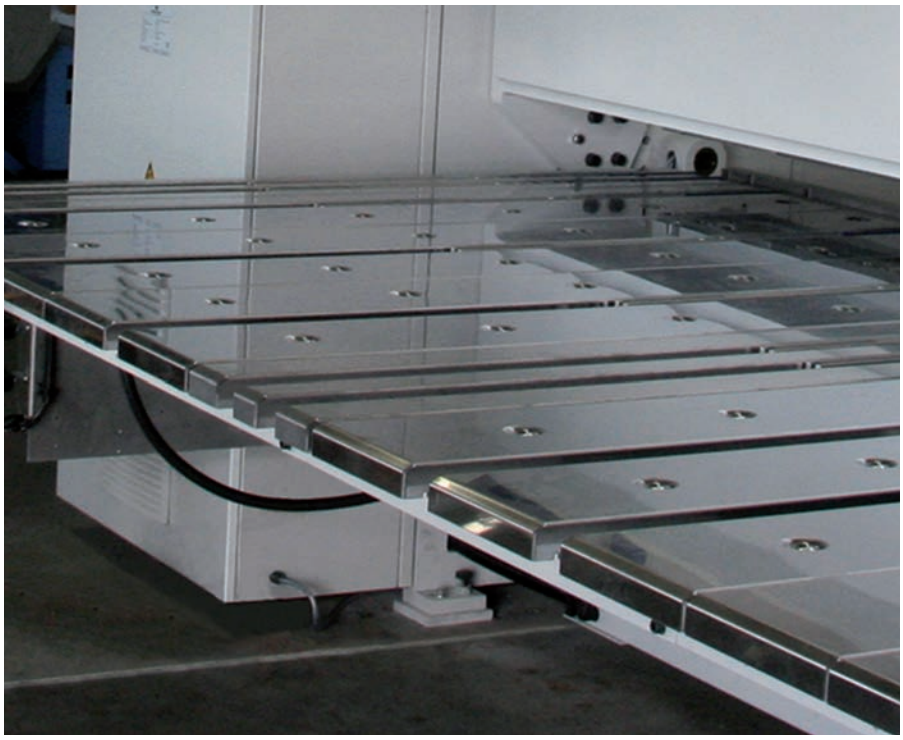
CNC folding beam adjustment, manual or CNC crowning, and speed enhancement are just a few of the options that add specific features with benefits to the PowerBend Universal.

Gauge options for optimal handling

The options for the PowerBend Universal are as varied as the workpieces that you can produce on it.



Display of crowning system



Gauge table, 1,600 mm, closed, with ball transfers

Schröder offers a wide range of back gauge and integrated sheet support systems. The material rests on the support table while the gauge feeds the part through the bending sequence.

Select the gauge best suited for your part requirements. Starting at 1,000 mm, the back gauge is accurately positioned using high precision ball screws to an accuracy of ± 0.1 mm. Gauges with depths from 1,600 mm are divided into two or more sections with pneumatic pop-up fingers to hit any dimension quickly and accurately.

Ball transfers placed throughout the sheet support system provide a frictionless surface on which the part is easily manipulated.

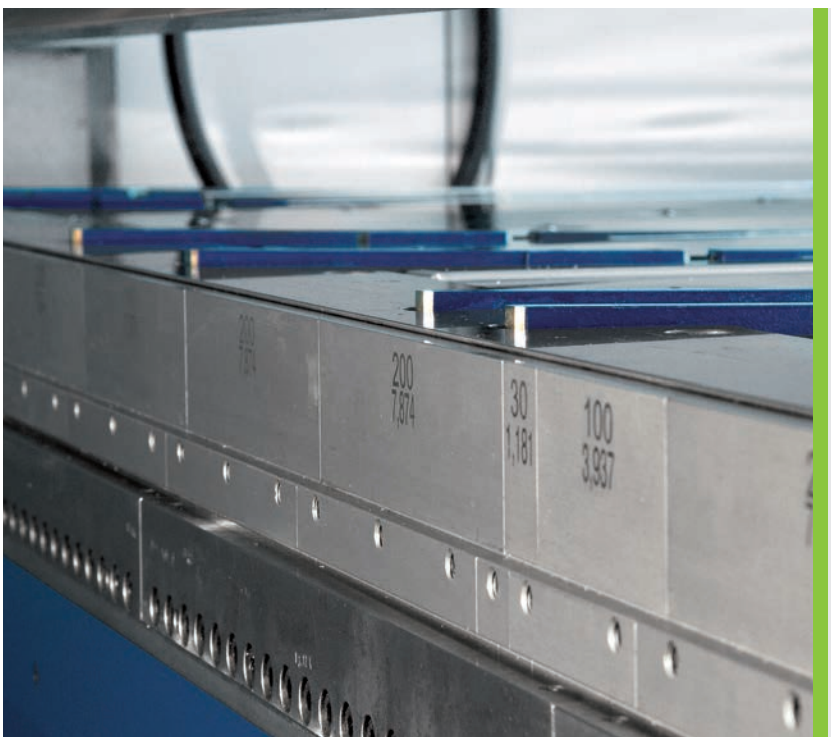
Adding squaring arms at the operator lane provides an ergonomically convenient method of aligning parts to tooling stations, or for squaring long thin rectangular profiles. If you are working with the control POS 2000 Professional, two pneumatic squaring arms at the operator lane can be controlled automatically in connection with gauge extensions.

Gauge depths can be extended up to 4,000 mm, and can be configured in a J or U shape. A 1,600 mm gauge table forms the basis for this option.

Tools

Use the right tool for the job – Schröder understands this better than anyone. With dozens of standard geometries, and engineered customs, your parts will always hit the mark.

The optionally available hydraulic tool clamping device reduces set-up times.

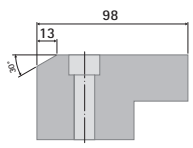
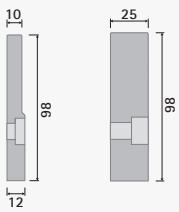
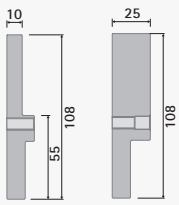
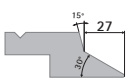
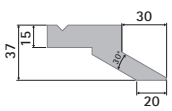
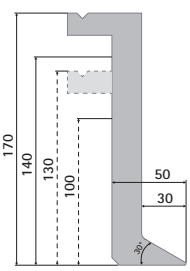
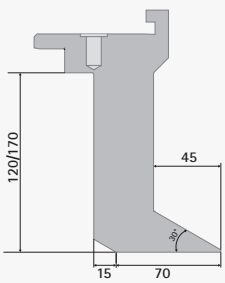
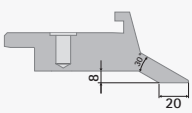
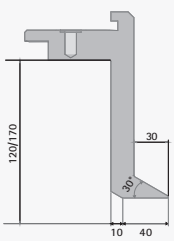


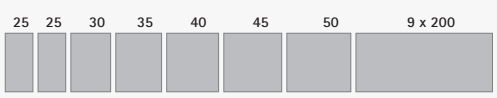
Segmented tools on the folding beam leave more space.

Tool flexibility is key to minimizing set up times and maximizing capabilities. Tooling must be material and thickness independent, high capacity, and with generous free space. A compromise on any of the above is a compromise on the machine itself.

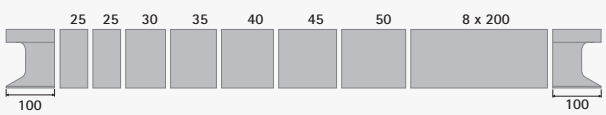
Always tidy: Use our practical tool cart for blades, rails, and segmented tools as optional equipment..

Tool options

Bottom beam tools (WZS* 16000)		Bottom beam blade, H = 55 mm, divided min. gauge 10 mm with finger grooves, surface-hardened (nitrated) ca. 1,100 N/mm²
Folding beam tools (WZS 15000 / 15100)		Folding blade one piece, directly screwed, 10/15/20/25/35 mm, 98 mm high, ca. 1,100 N/mm² surface hardened (phosphated) (only with manual clamping device)  Folding blades segmented 10/15/20/25/35 mm, 108 mm high, surface hardened ca. 1,100 N/mm² (phosphated)
Clamping beam tools, manual clamping device hardened, ca. 1,100 N/mm² (WZS 020)	 	Sharp nose blade 30°, R 1/1.5/3, divided Tinsmith blade, 30°, R 1/1.5/3, foot width 20 mm, clearance on the rear 10 mm, segmented  Goat's foot blade 100 or 140 mm high, (total high 130 mm or 170 mm), 30°, R 1/1.5/3, foot width 50 mm, clearance 30 mm
Clamping beam tools, hydraulic clamping device, ca. 1,100 N/mm² (phosphated) (WZS 2000)	 	Sharp nose tool 20°/30°, R 1/1.5/3, segmented Goat's foot blade 120 or 170 mm high, 20°/30°, R 1/1.5/3, foot width 85 mm, clearance 45 mm  Tinsmith blade, 20°/30°, R 1/1.5/3, foot width 20 mm, clearance on the rear 8 mm, segmented  Goat's foot blade 120 or 170 mm high, 20°/30°, R 1/1.5/3, foot width 50 mm, clearance 30 mm



Example: segmentation of folding blades at a working length of 2,040 mm (segmentation varies according to working length)

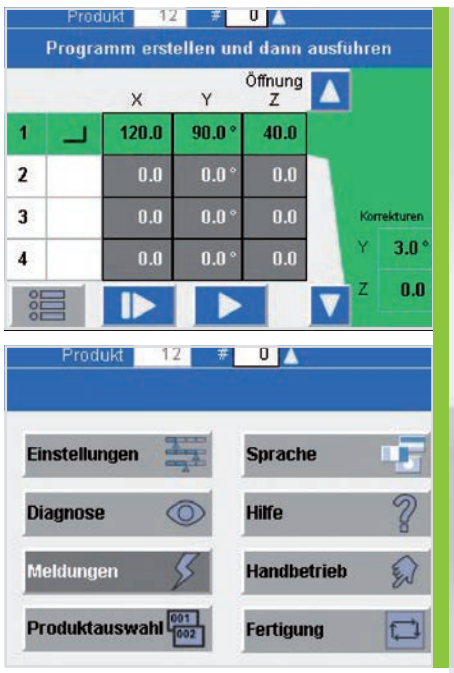


Example: segmentation of a goat's foot blade at a working length of 2,040 mm (segmentation varies according to working lengths)

* WZS = Tool system

nano Touch

The most clearly laid-out alphanumeric control



Simple symbols and alphanumeric data describes the bending program.

The nano Touch is a modern alphanumeric touch screen control. Self-explanatory and very easy to operate. Control of the machine axes is through a path measurement system, programming from flange to flange. A clearly laid out user interface with easy to understand icons with text and numeric displays eases the operator through his day of running jobs.

Corrections for angle and flange length are entered per part or per bend for even more accuracy control. The nano Touch is proof positive that sometimes simpler is better. Schröder Maschinenbau is setting new control standards for companies needing the advantages of folding as a process, but does not need the sophistication of a high end control system.

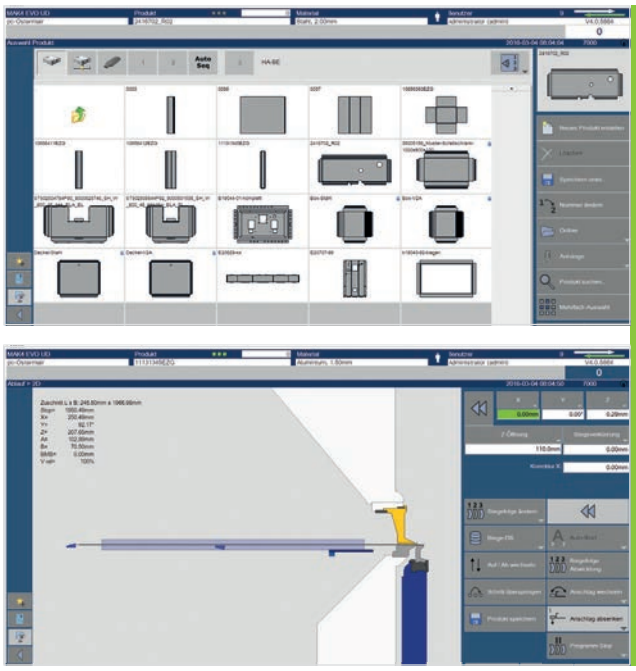
nano Touch

- Store up to 9,999 programs, each program up to 99 bends
- Icon based programming
- Part corrections per bend, or per program
- Bend list with current bend highlighted
- Piece counter
- Control mount on frame or swivel arm
- Options: Offline programming, POS 2000 Professional

And for those companies needing that extra level of sophistication, the PowerBend Universal can optionally be configured with the finest graphical control ever developed for precision metal folders.

POS 2000 Professional

The graphical solution to your complex forming needs



POS 2000 Professional keeps the operator informed, from programming to the running part.

For parts requiring graphical assistance to program and manipulate through the bending sequence, the POS 2000 Professional provides a visual interface for the operator and programmer. Through it, every step of the bending process is clearly shown. The graphics show the part as it is formed around the tooling and machine. 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. Part processing is as simple as following the on screen visual and written queues. From loading the sheet in the proper orientation, through each and every bend, the POS 2000 shows how to progress through each and every step of the part.

POS 2000 Professional

- Windows 7 operating system
- Unlimited profile storage
- Unlimited tool storage
- Unlimited materials library
- Automatic cut length calculation
- Accurately scaled virtual bending simulation
- Zoom function
- Optimization of all machine axes
- Infinitly variable machine speed

Options

- Bump-forming radius function
- PC version for offline programming
- Remote connect for maintenance and training

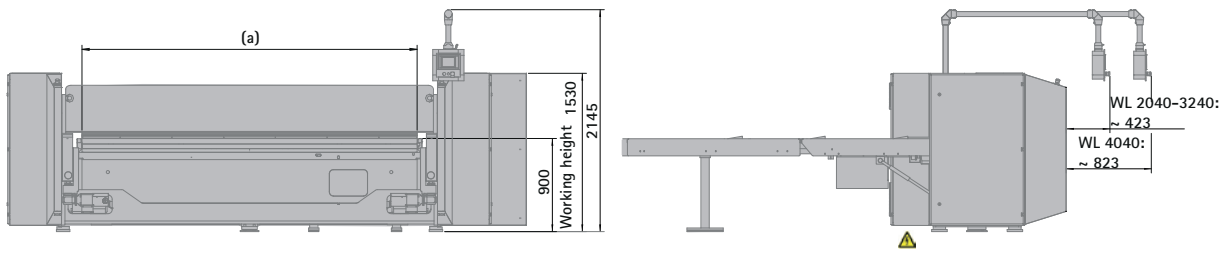
Dimensions and technical data

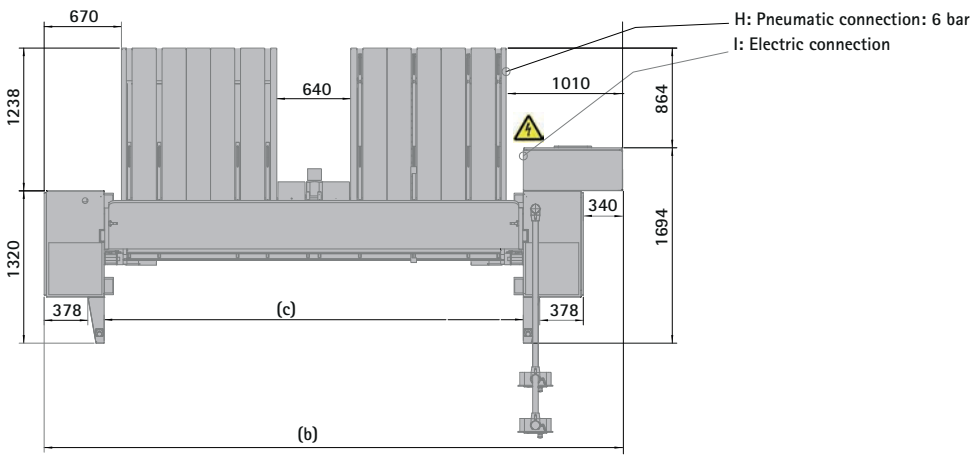
PowerBend Universal	2,000 × 4.0	2,500 × 4.0	3,200 × 3.0	4,000 × 2.5
Working length WL (a)	2,040 mm	2,540 mm	3,240 mm	4,040 mm
Sheet thickness (400 N/mm²)	4.0 mm	4.0 mm	3.0 mm	2.5 mm
Machine length (b)	3,814 mm	4,314 mm	5,014 mm	5,814 mm
Length of working area (c)	2,434 mm	2,934 mm	3,634 mm	4,434 mm
Machine width with back gauge, motor. 1,000 mm	2,558 mm			
Machine width with back gauge, motor. 1,600 mm	2,558 mm			
Machine width with table in U shape	3,433 mm	3,433 mm	4,308 mm	5,108 mm
Machine height	1,530 mm			
Working height	900 mm			
Machine height with swivel arm mount	2,145 mm			
Weight of basic machine (ca.)	4,500 kg	5,100 kg	5,800 kg	6,700 kg
Clamping beam				
Geometry	48° (180°)			
Stroke	350 mm			
Drive power	3 kW/2 x 2,2 kW			
Speed	20/65 mm/sec			
Folding beam				
Drive power	2 × 2.2 kW			
Speed	48°/sec (85°/sec)			
Adjustment, manual/motorized	80 mm			

Standard tools can also be used to form rounded edges.

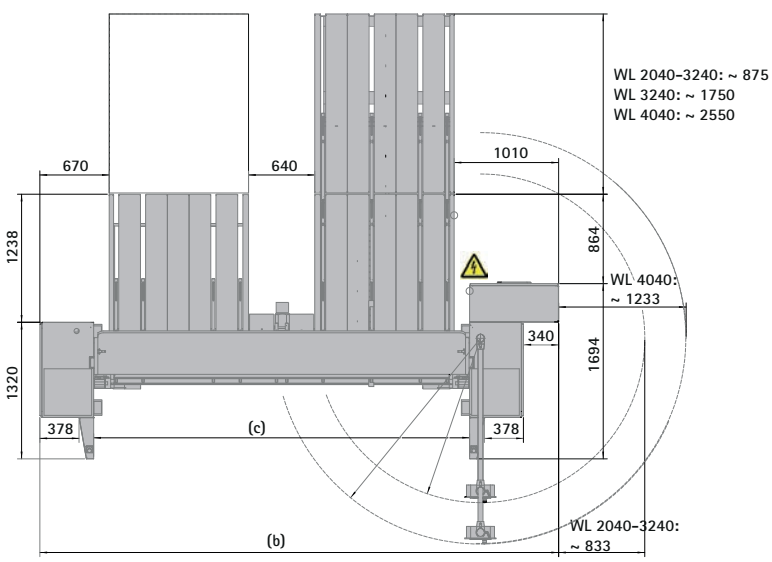
All specifications are considered as guidelines and may be subject to changes at any time.

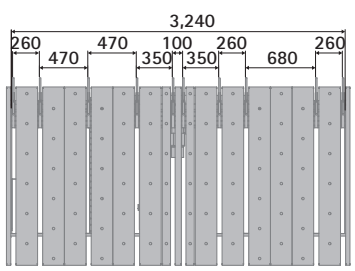
Dimensions: PowerBend Universal



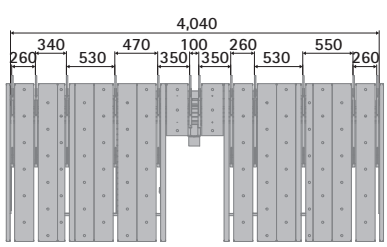


Special accessory extensions





Gauge table 1,600 mm, closed



U shape 1,600, 2 x 800 mm
U shape 2,400, 3 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, 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.

HSM 190627EN

Hans Schröder Maschinenbau GmbH
Feuchten 2 | 82405 Wessobrunn-Forst | Germany
T +49 8809 9220-0 | F +49 8809 9220-700
E info@schroedergroup.eu
www.schroedergroup.eu

SCHRÖDER GROUP