

FOLDING MACHINE
SPB Evolution UD

SPB Evolution UD

The SPB Evolution UD is our versatile industrial folding machine for the single piece and serial production that unifies power, speed and precision.



SPB Evolution UD



Up-and-Down-function: counter folds without turning upside down the sheet

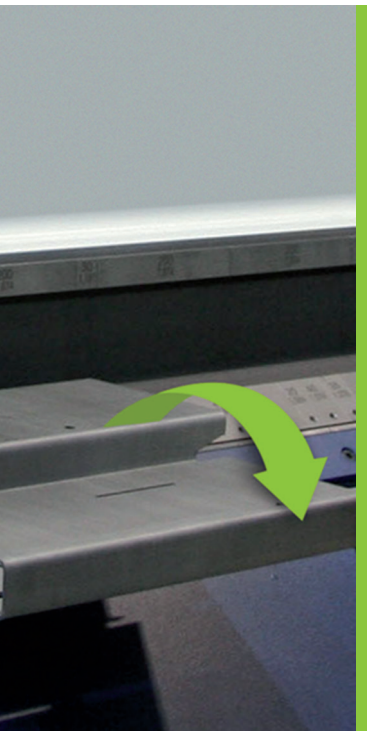
The SPB Evolution UD allows you to bend complex work pieces such as panels, boxes or cassettes and to achieve high productivity at the same time. The machine with the working length 2500x5,0 , 3200x4,0 or 4000x3,0 is an extremely flexible Up-and-Down folding machine. Besides of precise linear drives and graphical programming, the highlight functions are definitely options such as the rotating clamping beam, the automatic tool changer or the suction gauge. All these are possibilities to make your production faster, more efficient and more flexible.

Multi-shift operation, industrial series production, complex processing of stable metal sheets – the SPB Evolution UD provides the ability and robustness required for these challenges.

Up-and-Down-Technology increases productivity

Minimize the costs of handling large metal sheets on the machine and take advantage of Schröder's Up-and-Down technology. More processing steps in shorter times. With conventional folding machines, the sheet needs to be turned. Even a simple Z-fold becomes a challenge if an operator needs to turn a four-meter long sheet upside down.

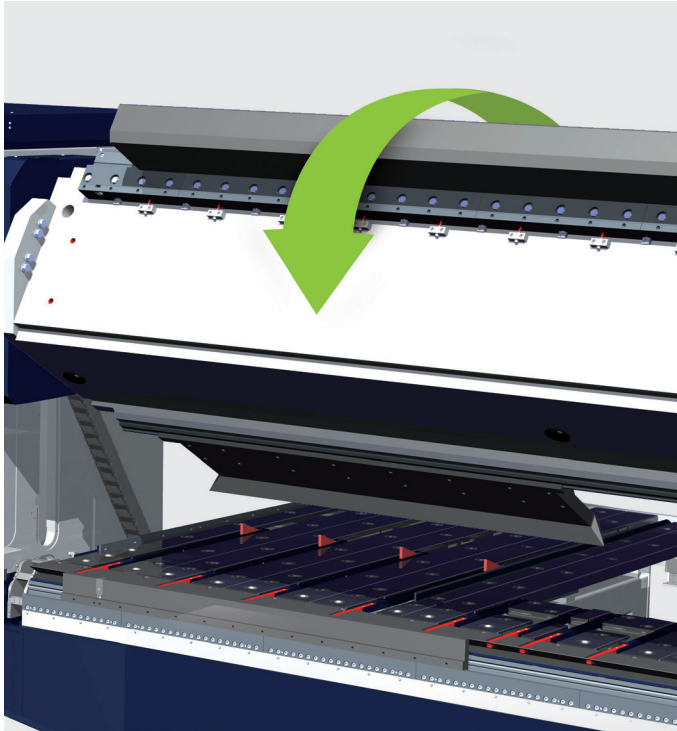
We provide the solution: The SPB Evolution UD (Up-and-Down) bends up and down in one processing step. This saves numerous manual actions, simplifies the handling of unwieldy work pieces, shortens throughput times and lowers costs per unit.



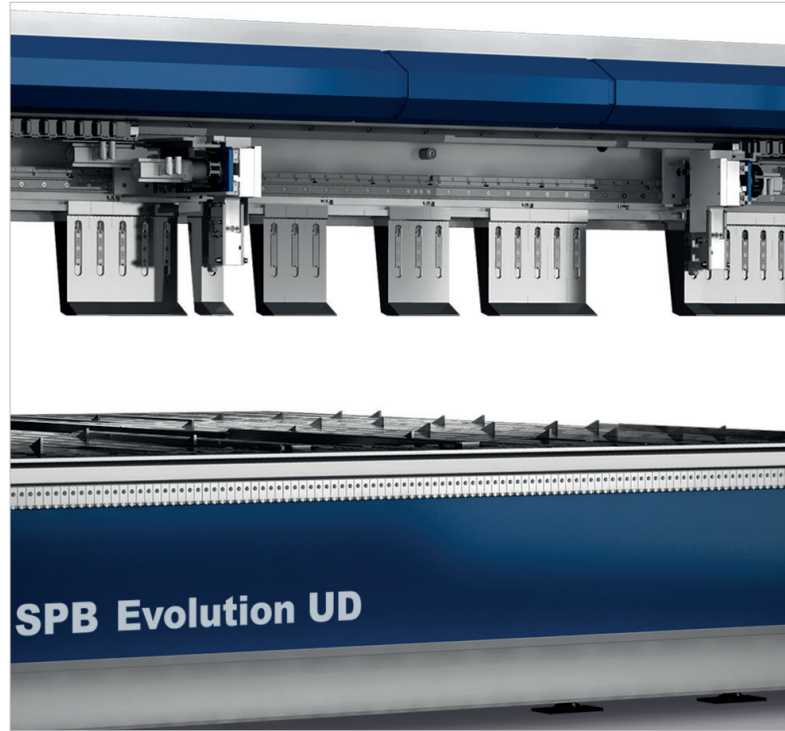
Standard equipment	
Software control	<ul style="list-style-type: none"> - POS 3000 3-D Graphic control on swivelling arm - Radius function - Remote maintenance via internet
Clamping beam	<ul style="list-style-type: none"> - Stroke: 350 mm - Geometry: 180° - Hydraulic tool clamping device (WZS 2000)
Folding beam	<ul style="list-style-type: none"> - Up'n Down folding beam, automatically controlled - Pneumatic tool clamping device (WZS 7000) - Folding beam adjustment, motorized: 200 mm - Folding center adjustment, motorized: ± 20 mm - Central crowning device, motorized - Center point adjustment, converter-controlled drive
Back gauge system	<ul style="list-style-type: none"> - Positioning gauge 10-2550 mm, 10-3400 mm and 10-4250 mm respectively, U-shape with sectors, pneumatic pop up gauge fingers, steel balls in sheet support table. Square arm 1500 mm left and right side. The segmented support plates can be removed to make room for downflange applications.
Work safety	<ul style="list-style-type: none"> - Protection via light barrier controlled by safety-PLC for operation from the rear - Safety package for operation from the front incl. 2nd foot switch on rail for lateral movement
Others	<ul style="list-style-type: none"> - Standard machine without tools - Foot switch - Anchor plates incl. dowels

Special equipment	
Clamping beam	<ul style="list-style-type: none"> - Rotating clamping beam as automatic tool changing system incl. hydraulic tool clamping device for 2nd tool station (not in combination with clamping beam stroke) - Speed optimizer Z-axis drive (max. speed: 120 mm/sec) - Increase of clamping beam stroke Z-axis to 830 mm (not in combination with rotating clamping beam) - Fully automatic tool changer for clamping beam tools with hydraulic tool clamping device for max. tool height 300 mm
Folding beam	<ul style="list-style-type: none"> - Automatic tool changer for folding beam tools with pneumatic tool clamping device (without toolings)
Back gauge system	<ul style="list-style-type: none"> - Suction plates in gauge table, program-controlled incl. 2 pneumatic pop up square arms assembled aisle side
Work safety	<ul style="list-style-type: none"> - 2-man-operation
Others	<ul style="list-style-type: none"> - Tool cart for blades, rails and segmented tools - Voltage transformer 18 kVA - Air conditioner on both switch cabinets - Overseas packaging - Options for back gauge, please see p. 5 - Options for software control, please see p. 8-9 - Tools, please see p. 6-7

Rotating clamping beam and automatic tool changer



The rotating clamping beam holds a second set of tools.



SPB Evolution UD with automatic tool changer

Rotating clamping beam

Fast changing jobs or complex folding tasks with different folding tools – the SPB Evolution UD holds a second set of tools in the rotating clamping beam. Where other folding machines need to be re-equipped, the SPB Evolution UD simply continues to work. An additional advantage: The rotating clamping beam provides an alternative machine geometry (45°) with other clearances.

In case of frequent tool changes, we have another option for you: Instead of a rotating clamping beam, the SPB Evolution UD is even faster and more flexible with an automatic tool changer.

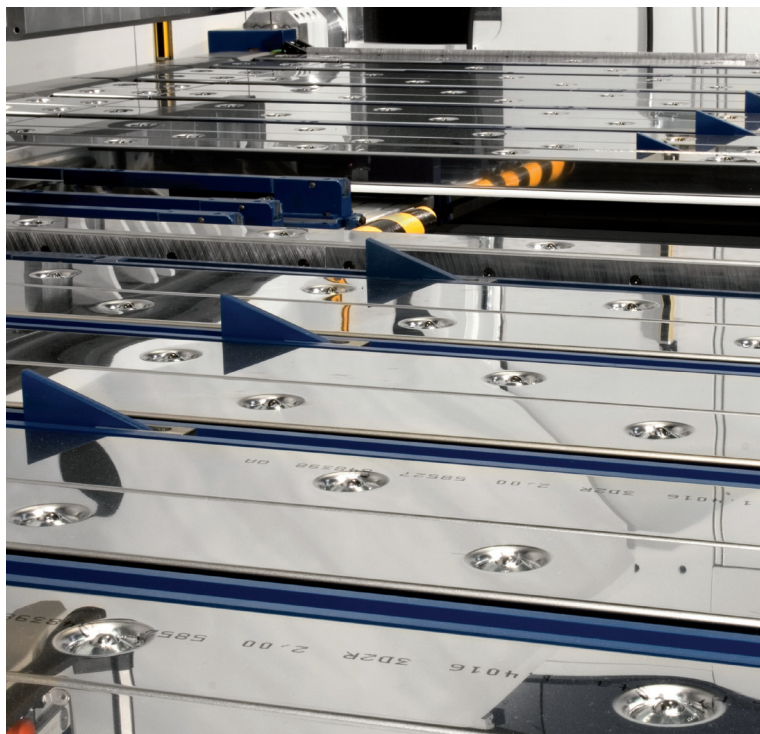
Automatic tool changer

The automatic tool changer consists of two tool grippers that move asynchronously, take tools from the magazine, position them in the clamping beam and reposition the currently used tools respectively. Especially when producing small batches or single pieces, you are able to increase efficiency and minimize downtimes.

The tool changer receives all product information, upcoming orders, and required tools via our software control POS 3000.

Gauge options

The SPB Evolution UD is able to tackle the most diverse sheet metal formats without any difficulties.



We offer different back gauge systems with pneumatic pop-up gauge fingers that are suitable for your typical sheet metal formats.



Suction plates in gauge table, controlled via POS 3000.

Gauge systems

Schröder offers a wide range of back gauge and integrated sheet support systems. The loading of the machine is ergonomic for the operator and gentle to the material.

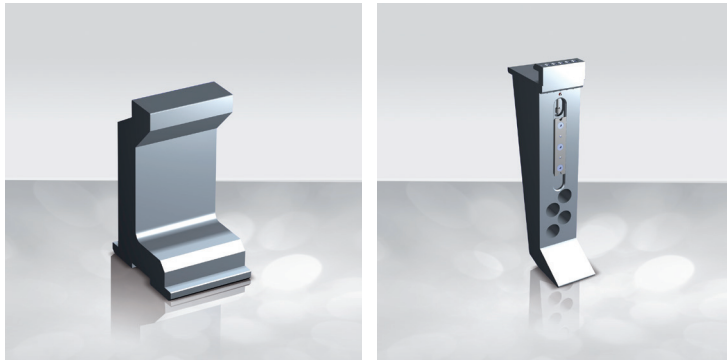
Ball transfers placed throughout the sheet support system provide a frictionless surface on which the workpiece is easily manipulated. The standard back gauge of the SPB Evolution UD offers a sheet support in U-shape which allows to gauge 10 - 2250 mm, 10 - 3400 mm or 10 - 4250 mm respectively. The gauge fingers pop-up pneumatically. In order to be able to bend long slim sheets exactly at a right angle, we recommend the pneumatic pop-up square arms assembled aisle side.

Option: Gauge with suction plates

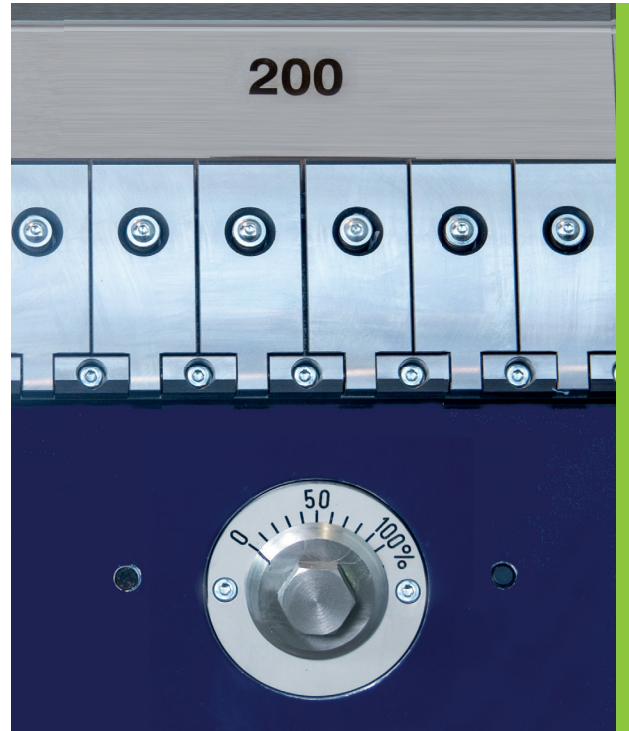
As additional option plates are available for the gauge table. These suction cups pneumatically fix the sheet: The suction gauge takes effect where the pop-up gauge fingers have no reliable grip if the work piece on the gauge side e.g. has cut-outs or roundings. One great advantage: The sheet gets pneumatically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

Tools

For every folding task the right tools – with the high-quality tools from Schröder you are able to fold exactly and to bend radii with highest precision.



Segmented tools – on request also as individual solution



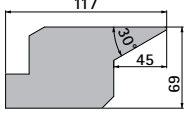
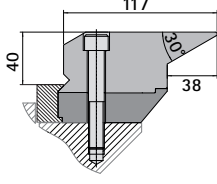
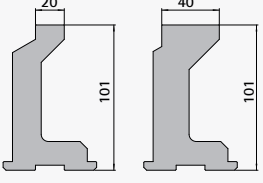
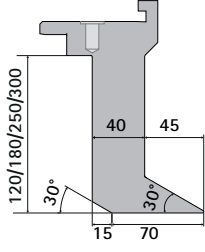
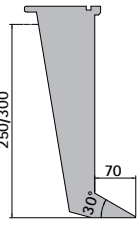
For fine-tuning: central crowning device

As a flexible platform the SPB Evolution UD is able to adapt to production-specific requirements using specific tools. When it comes to the bending process the right tool is essential – with the SPB Evolution UD 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.



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

Tool options

Tool options	
Bottom beam tools WZS* 10000	<p>Bottom beam blade, one-piece, directly screwed surface-hardened ca. 1100 N/mm²</p> <ul style="list-style-type: none"> - Without finger grooves (Min. gauge 130 mm) - With finger grooves 
Bottom beam tools WZS 4100 / 4200	<p>Bottom beam blade, divided incl. clamping rail, directly screwed surface-hardened ca. 1100 N/mm²</p> <ul style="list-style-type: none"> - Without finger grooves (Min. gauge 130 mm) - With finger grooves 
Folding beam tools WZS 7000	<p>Folding blade segmented (101/81 x 65 mm) surface hardened ca. 1100 N/mm²</p> <p>No. 1 - L = 2 x (25/30/35/40/45/50) = 450 mm No. 2 - L = 200 mm (number according to work. length)</p> <p>Standard folding blade width: 10/15/20/25/30/35 or 40 mm</p> 
Clamping beam tools WZS 2000	<p>Goat's foot blade „C“, 30°, (from radius 1.0 mm), clearance 45 mm, foot width 85 mm surface-hardened, ca. 1100 N/mm²</p> <p>No. 1 - L = 2 x (25/30/35/40/45/50) = 450 mm No. 2 - L = 200 mm (number according to working length) from H = 300 mm, L = 100 mm Nr. 3 - L = 2 x 100 = 200 mm (corner parts) Height 120/180/250 oder 300 mm</p> 
Clamping beam tools WZS 6000 for tool changer	<p>Goat's foot blade „C“, 30°, (from radius 1.0 mm), clearance 70 mm, foot print 104 mm surface-hardened, ca. 1100 N/mm²</p> <p>Nr. 1 - L = 2 x (30/35/40/45/50/55/60) = 630 mm Nr. 2 - L = 80 mm (number according to working length) Nr. 3 - L = 2 x 160 = 320 mm (corner parts) Height 250 or 300 mm</p> 

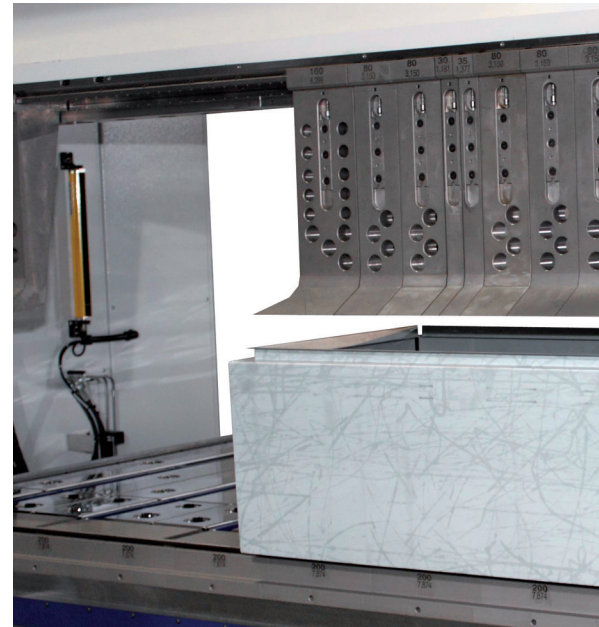
* WZS = tool system

Programming top performance

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



POS 3000 3D-graphic control: the result in front of your eyes – from the first steps up to simulation



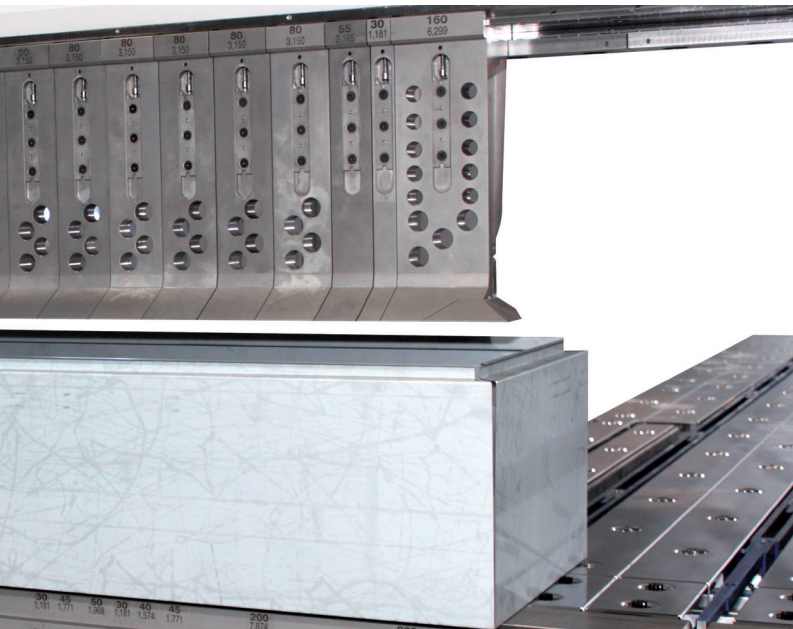
Many things are possible: Up-and-Down-technique and huge opening heights create new possibilities.

The POS 3000 3D-graphic control

Only the right software turns hardware into a flexible, easy to operate solution. With the POS 3000 3D graphic control, sheet metal working specialist Schröder has developed one of the most powerful controls on the market, and because both the hard and software come from a single provider, the SPB Evolution UD and POS 3000 3D graphical control are a perfect match.

From the drawing straight into production

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.



Special feature: POS 3000 allows graphical programming. Machine, tools and workpiece – everything is displayed clearly. As we know: Operating staff and planning engineers are experienced in products and not for IT programming. That's why your employees simulate the bending process visually beforehand, check the result in the 3D bending simulator and ensure that the workpiece will be processed accurately from the first bend. Once a bending program has been generated it can be displayed quickly, checked visually, and adjusted according to material requirements.

Do you want to learn more about the POS 3000 3D graphical control? Please read our software brochure, or better yet: Allow us to show you live how the POS 3000 can help optimize your production.



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
- Automatic tool setup programming and control of tool changer
- Cycle time calculator
- Radius-Step-Bending function
- PC-Version, CAM-connection, ERP/PPS-interfaces and DXF-converter available
- Remote maintenance via Schröder's Software-service
- Unfold software „SCHRÖDER Unfold“

Dimensions and technical data

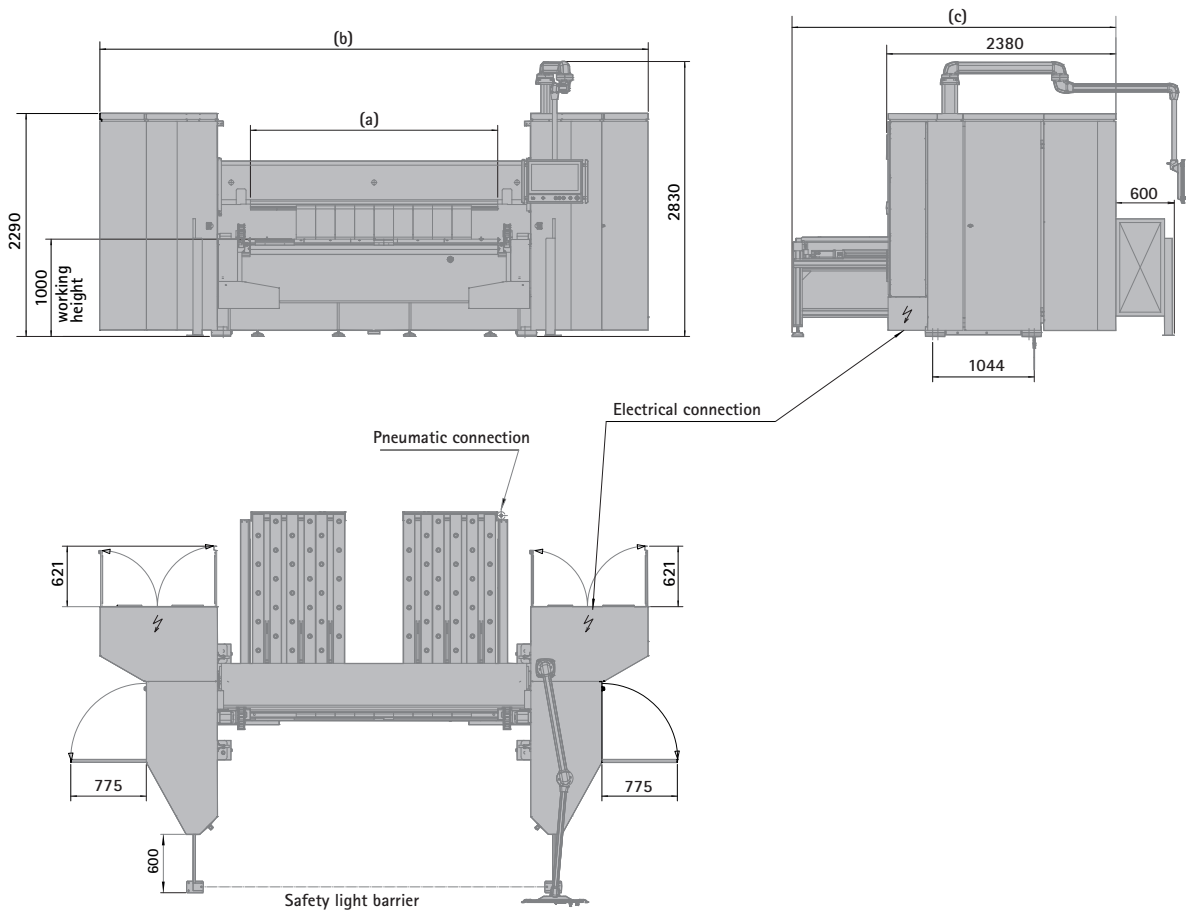


Bottom beam blade with finger grooves

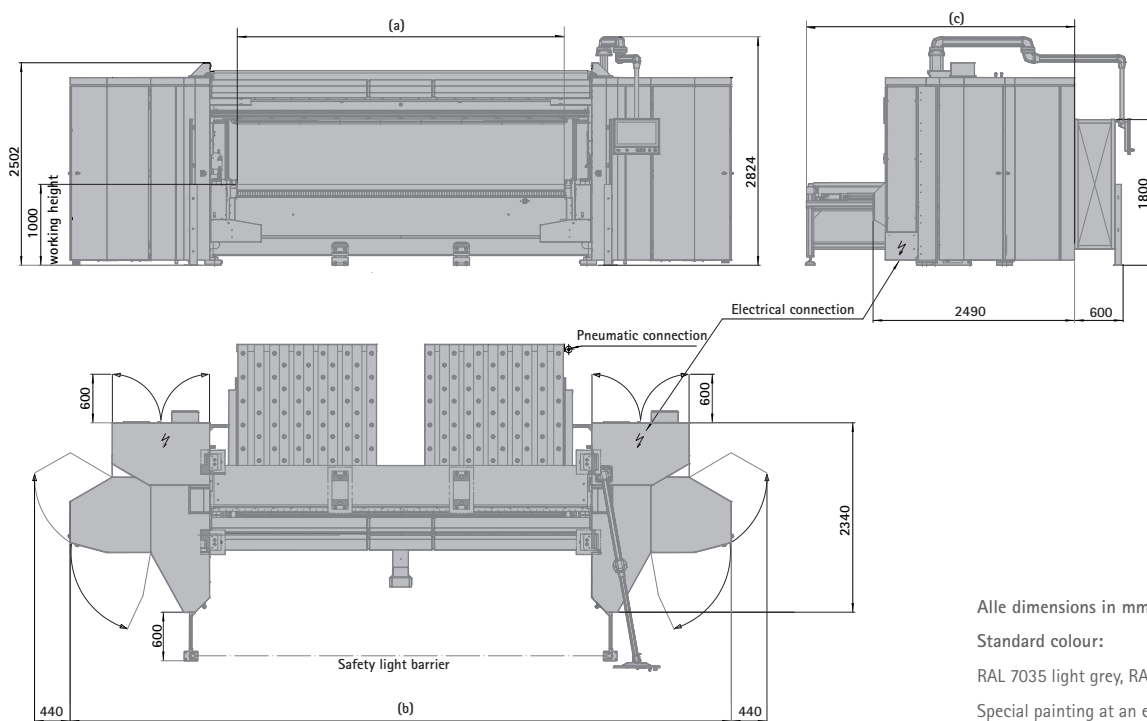
SPB EVOLUTION UD	2 500 x 5,0	3 200 x 4,0	4 000 x 3,0
Working length (a)	2,540 mm	3,240 mm	4,040 mm
Sheet thickness (400 N/mm ²)	5.0 mm	4.0 mm	3.0 mm
Machine length (b)	5,632 mm	6,332 mm	7,132 mm
Machine length (b) with WZW ¹	6,670 mm	7,370 mm	8,170 mm
Back gauge (c)			
U-2,250	4,300 mm	-	-
U-3,400	-	5,150 mm	-
U-4,250	-	-	6,000 mm
Weight (without back gauge)	10,705 kg	12,260 kg	13,350 kg
Clamping beam			
Geometry	180°	180°	180°
Stroke	650 mm		
Drive power	2 x 6.69 kW	2 x 6.69 kW	2 x 6.69 kW
Speed	120 mm/s	120 mm/s	120 mm/s
Folding beam			
Adjustment	200 mm		
Drive power	2 x 7.0 kW	2 x 7.0 kW	2 x 7.0 kW
Speed	150°/s	150°/s	150°/s
Folding center adjustment	80 mm		

¹ Tool changer

Dimensions: SPB Evolution UD



Dimensions: SPB Evolution UD with tool changer



Alle 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 250 people at various locations at home and abroad.

All information provided as a guide only
and subject to change at all times.
HSM 180621EN

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