SCHRÖDER GROUP

FOLDING MACHINE

SPB Evolution UD

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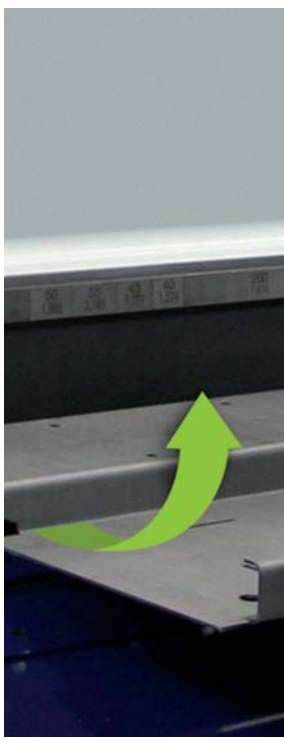
The SPB Evolution UD is our versatile industrial folding machine for the single piece and serial production that unifies power, speed and precision.

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

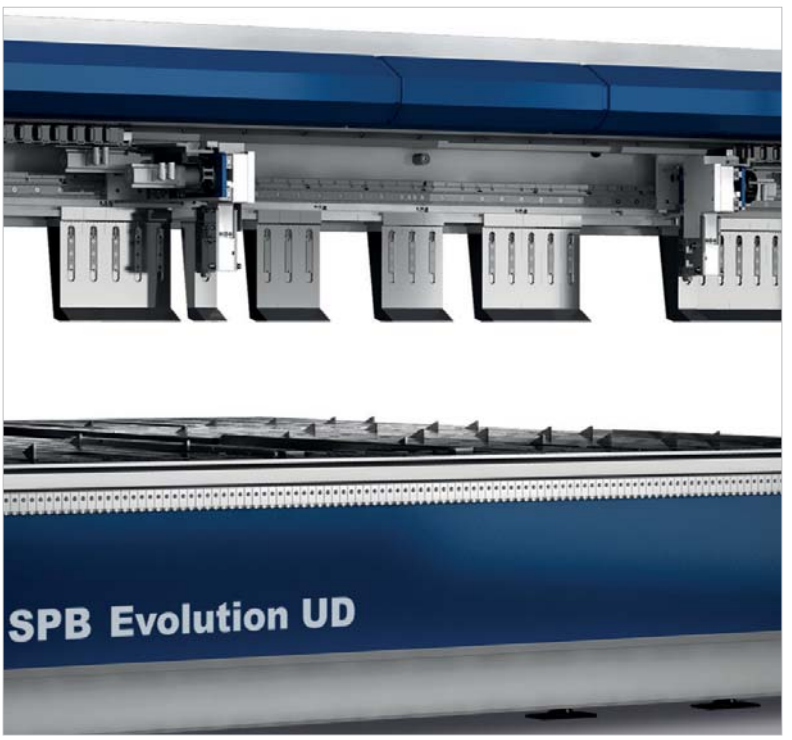
SPB Evolution UD
Software control: POS 3000 3-D Graphic control on swivelling arm
Up'n Down folding beam: Automatically controlled by POS 3000
Back gauge system: Positioning gauge 10-2,550 mm, 10-3,400 mm and 10-4250 mm respectively in U-shape with sectors, pneumatic pop-up gauge fingers, steel balls in sheet support table. square arm 1,500 mm right and left side.
Clamping beam stroke: 650 mm
Clamping beam geometry: 180°
Clamping beam: Hydraulic tool clamping (WZS 2000)
Folding beam: Pneumatic tool clamping (WZS 7000)
Motorized folding beam adjustment 200 mm, program controlled
Cental crowning, manual
Work safety: Protection via light barrier controlled by safety-PLC for operation from the rear
Footswitch
Anchor plates incl. dowels
Standard machine without tools

Special equipment

SPB Evolution UD
Rotating clamping beam as automatic tool changing system incl. hydraulic tool clamping device for 2nd tool station (not in combination with increased clamping beam stroke)
Increased clamping beam stroke Z-axis to 830 mm (not in combination with rotating clamping beam)
Speed optimizer Z-axis drive (max. axis speed: 120 mm/s)
Central crowning, motorized
Folding center adjustment, converter-controlled drive
Additional equipment for 2-man-operation
Safety package EVOLUTION UD for operation from the front, incl. footswitch on rail for lateral movement
Options to back gauge system, please see page 5 Options to POS 3000 software control, please see page 8-9
Others: Tool cart for blades and segmented tools, voltage transformer 18 kVA, air conditioner on both switch cabinets

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 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.

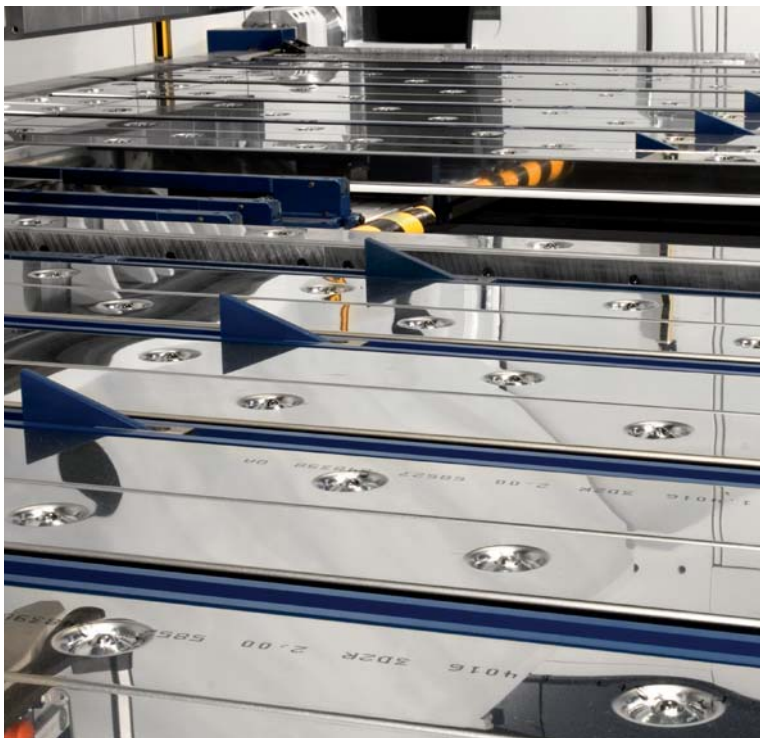
Automatic tool changer

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 with 4 suction units (from 3200 mm with 6 suction units), controlled via the software 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 easy 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

Plates with suction cups 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.

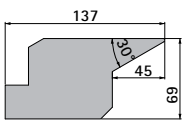
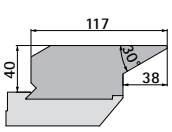
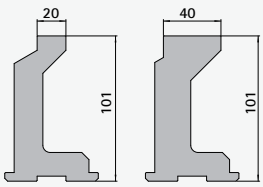
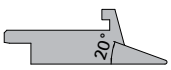
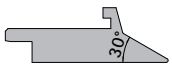
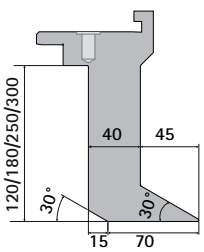
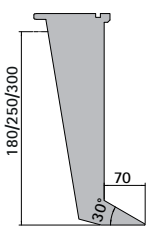
Segmented tools – on request also as individual solution

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.

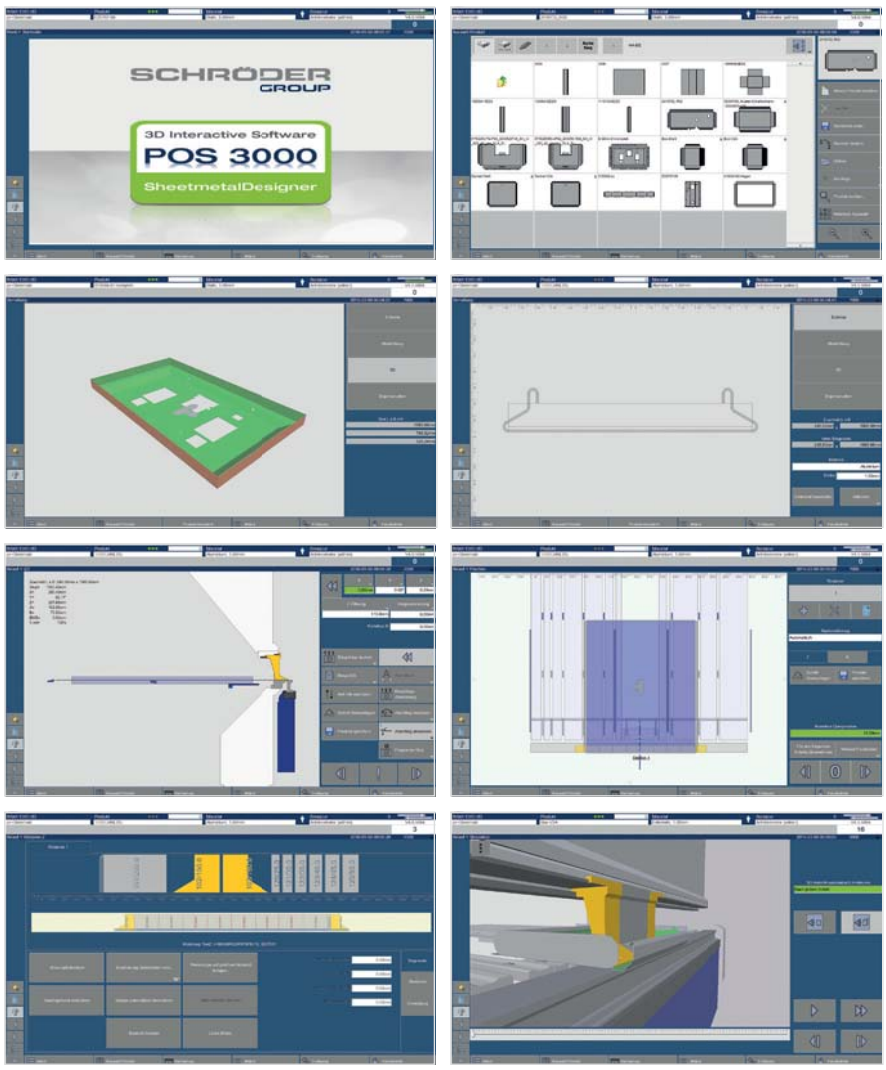
Special equipment tools

Tool options	
One-piece bottom beam tools WZS 10000, directly screwed, ca. 1100 N/mm²	Up and Down (20-45°) - Without finger grooves (Min. gauge 130 mm) - With finger grooves 
Divided bottom beam tools WZS 4000, incl. tool fitting, ca. 1100 N/mm²	Up and Down (20-45°) - Without finger grooves (Min. gauge 130 mm) - With finger grooves 
Folding beam tools WZS 7000, (only with UD), ca. 1100 N/mm²	Folding blade segmented (101/81 x 65 mm) No. 1 - L = 2 x (25/30/35/40/45/50) = 450 mm No. 2 - L = 200 mm (number according to working length) Standard folding blade width: 10/15/20/25/30/35 or 40 mm 
Clamping beam tools WZS 2000, ca. 1100 N/mm²	Sharp-nose blade „SA" 20° (from radius 1.0 mm) divided  Sharp-nose blade „SA" 30° (from Radius 1.0 mm) divided  Goat's foot blade „C", 30°, (from radius 1.0 mm), clearance 45 mm, foot width 85 mm No. 1 - L = 2 x (25/30/35/40/45/50) = 450 mm No. 2 - L = 200 mm (number according to working length) No. 3 - L = 2 x 100 = 200 mm (corner parts) Height 120/180/250 or 300 mm 
Clamping beam tools WZS 6000 for tool changer, ca. 1100 N/mm²	Goat's foot blade „C", 30°, (from radius 1.0 mm), clearance 70 mm No. 1 - L = 2 x (30/35/40/45/50/55/60) = 630 mm No. 2 - L = 80 mm (number according to working length) No. 3 - L = 2 x 160 = 320 mm (corner parts) Height 180/250 or 300 mm 

* 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

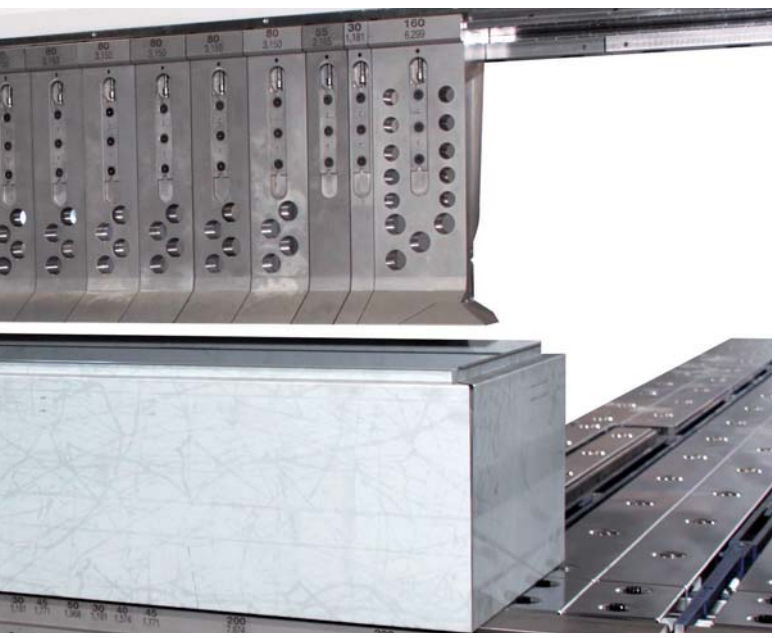
Many things are possible: Up-and-Down-technique and huge opening heights create new possiblities.

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

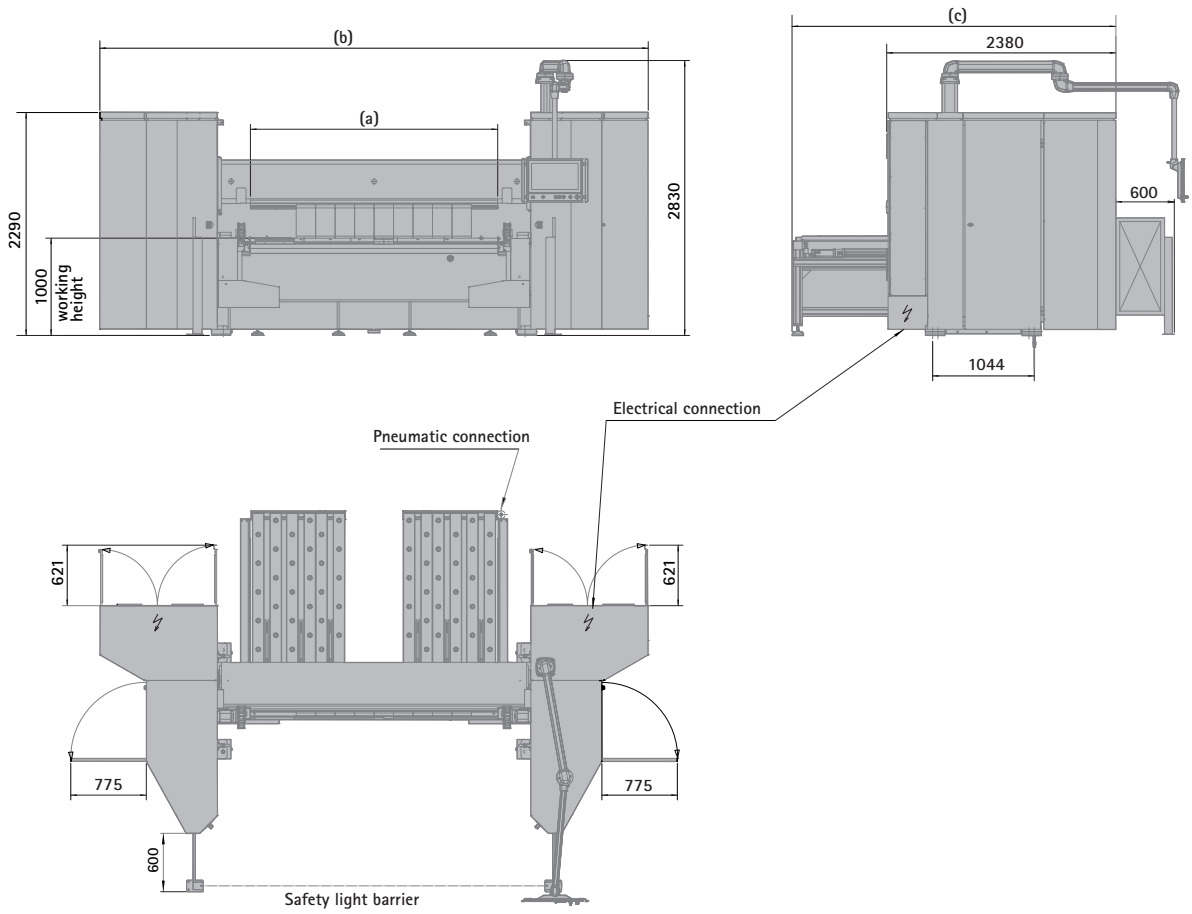
Dimensions and technical data

Bottom beam blade with finger grooves

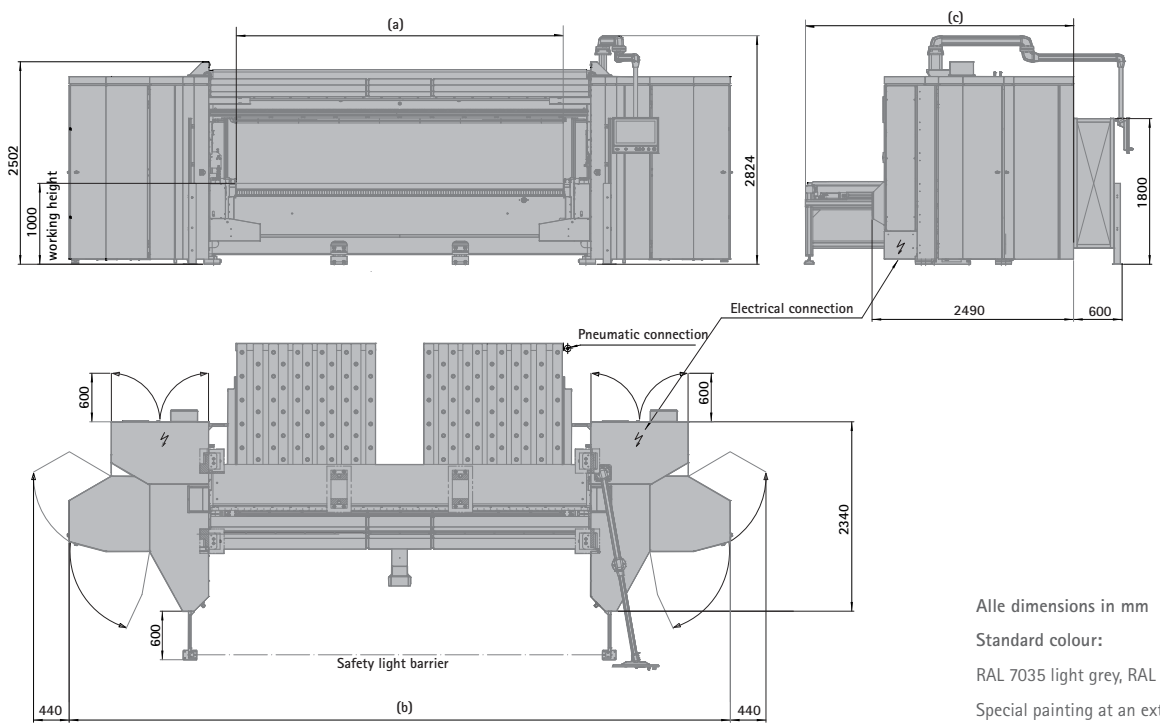
SPB EVOLUTION UD	2 500 x 5,0	3 200 x 4,0	4 000 x 3,0
Working length (a)	2,540 mm	3,240 mm	4,040 mm
Sheet thickness (400 N/mm²)	5.0 mm	4.0 mm	3.0 mm
Machine length (b)	5,632 mm	6,332 mm	7,132 mm
Machine length (b) with WZW[1]	6,670 mm	7,370 mm	8,170 mm
Back gauge (c)			
U-2,250	4,300 mm	-	-
U-3,400	-	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	125 mm/s	125 mm/s	125 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/s	

[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 240 people at various locations at home and abroad.

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