SCHRÖDER GROUP

FOLDING SYSTEM

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 Schröder Maschinenbau's decades of experience in industrial 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.

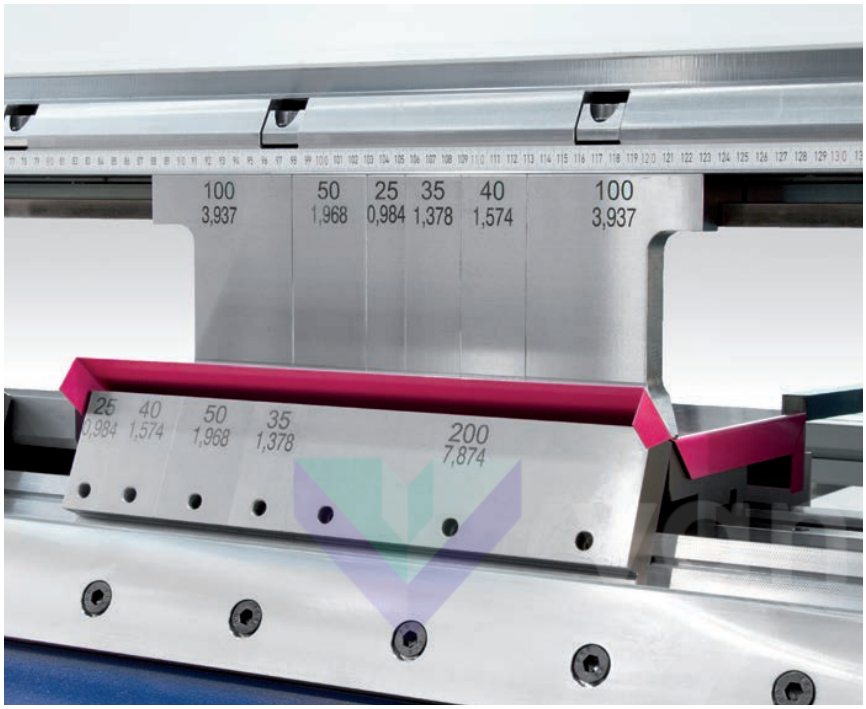
A reinforced drive of the folding beam increases the bending performance by 1 mm

Standard equipment	
Control Software	– nano Touch touchscreen control, swivel arm mount
Clamping beam	– Drive: 3.0 kW, center drive, (controlled through contactors, 20 mm/sec), trapezoidal spindle – Stroke: 350 mm – Clamping beam orientation: 48°/180° – Tool clamping device, manually clamped (WZS 020)
Folding beam	– Drive: 2 x 2,2 kW (controlled through contactors, 48°/sec) – Adjustment, manual: 80 mm - folding beam tools, manually clamped
Bottom beam	– Bottom beam blade 700 N/mm² one piece with finger grooves – Minimum gauge dimension 10 mm (varies according to options)
Others	– Bump-forming radius function – Foot switch – Achor plates incl. dowels

Special equipment	
Control Software	– POS 2000 Professional
Clamping beam	– Drive: 5.5 kW, center drive (50 mm/sec), (requires converter package); ball screw spindles – Clamping beam tools, hydraulically clamped (WZS 2000)
Converter package	– Converter for clamping- and folding beam drive: 85°/sec
Folding beam	– Power-Package: increases the bending performance by 1 mm (65°/sec); reinforced drive incl. folding blade 50 mm (requires converter package) – Folding beam tools, pneumatically clamped – Adjustment, motorized: 80 mm – Central crowning device, manual – Central crowning device, motorized
Machine operation	– 2-man-operation – Operation from the rear in addition (2nd foot switch and protection via light barrier) – Foot switch on rail for lateral movement
Gauge options and tables	– Support table 1,000 mm – Manual gauge, up to 1,000 mm incl. sheet support table – Motorized gauge, 10 mm - 1600 mm, 2 sectors with pneumatic lowering device, sheet support gauge table with ball transfers, ball screw drive with ± 0.1 mm accuracy, ball screw drive with ± 0.1 mm accuracy – 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.

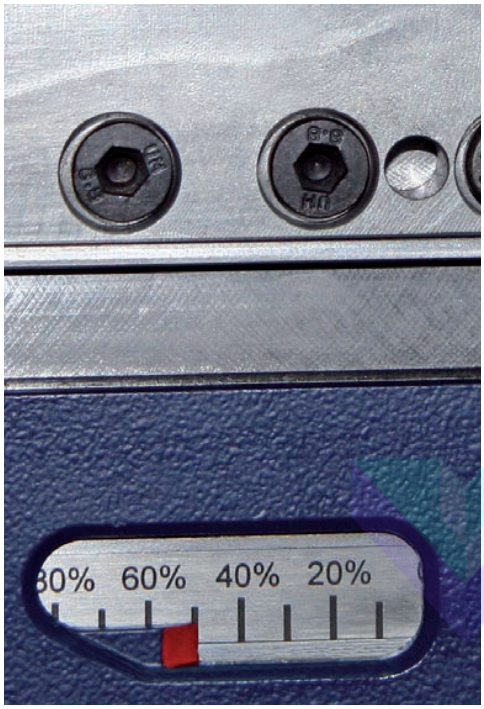
Even more power

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.

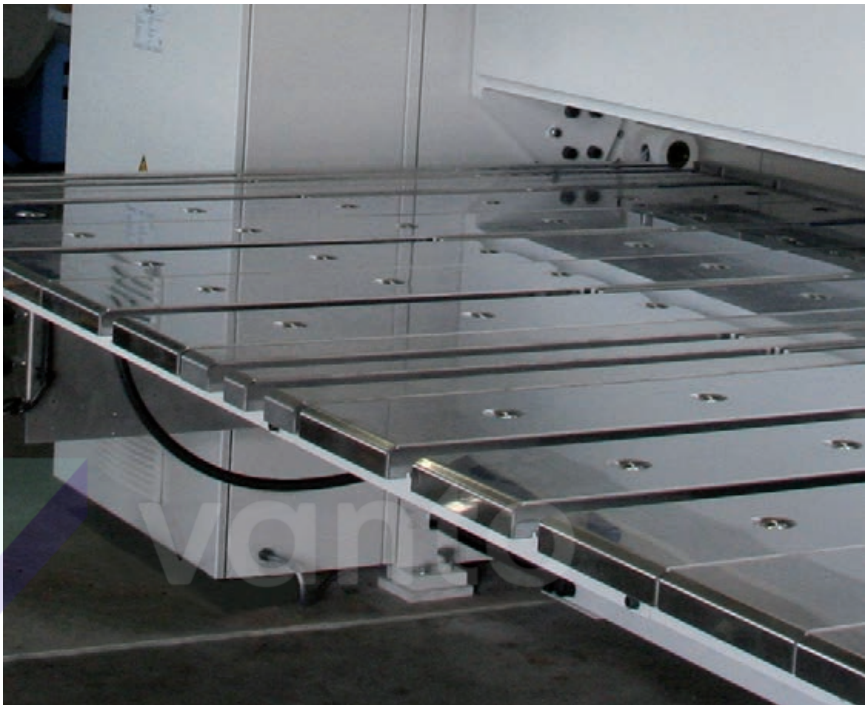
CNC folding beam adjustment, manual or CNC crowning, and speed enhancement are just a few of the options that add specific features with benefits to the PowerBend Universal.

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.

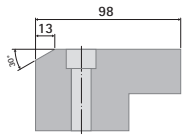
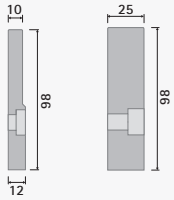
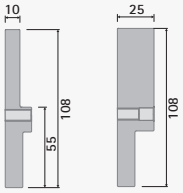
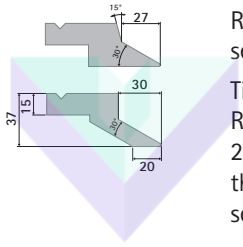
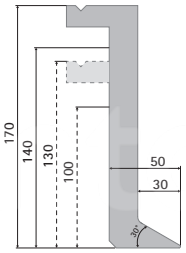
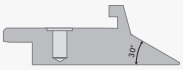
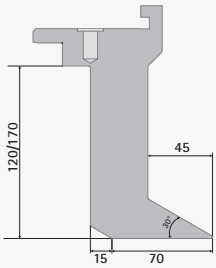
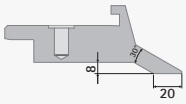
The optionally available hydraulic tool clamping device reduces set-up times.

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)		Segmented rail minimum gauge dimension 10 mm with finger grooves, precision ground 700 N/mm² or hardened ca. 1,100 N/mm²	One piece rail minimum gauge dimension 10 mm with finger grooves, hardened ca. 1,100 N/mm²	
Folding beam tools (WZS 15000)		One piece rail 10/15/20/25 mm, 98 mm high, precision ground ca. 700 N/mm² or hardened ca. 1,100 N/mm² (only with manual clamping device)		Segmented rail 10/15/20/25 mm, 108 mm high, precision ground ca. 700 N/mm² or hardened ca. 1,100 N/mm²
Clamping beam tools, manual clamping device ca. 1,100 N/mm² (WZS 020)		Sharp nose tool 30°, R 1/1.5/3, segmented Tinsmith tool, 30°, R 1/1.5/3, foot width 20 mm, clearance on the rear 8 mm, segmented		"C" style tool 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 (WZS 2000)	 	Sharp nose tool 30°, R 1/1.5/3, segmented "C" style tool 120 or 170 mm high, 30°, R 1/1.5/3, foot width 85 mm, clearance 45 mm		Tinsmith tool, 30°, R 1/1.5/3, foot width 20 mm, clearance on the rear 8 mm, segmented "C" style tool with heel, 120 or 170 mm high, 30°, R 1/1.5/3, foot width 80 mm, clearance 45 mm

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

Example: segmentation of a "C"-style tool 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.

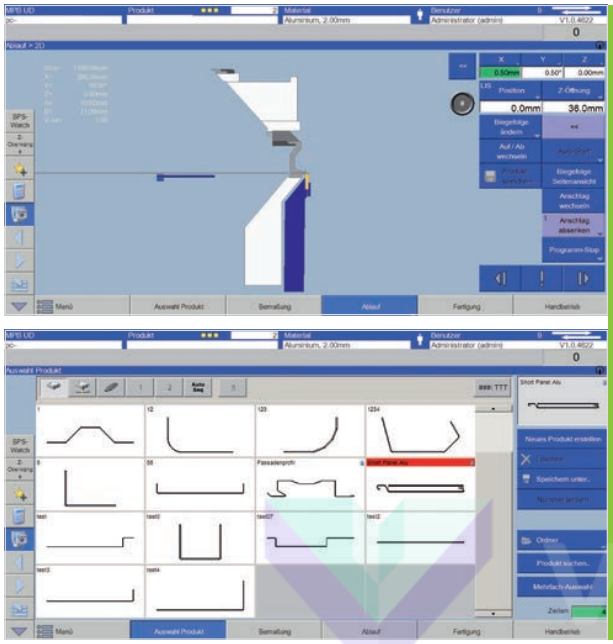
nano Touch

- 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

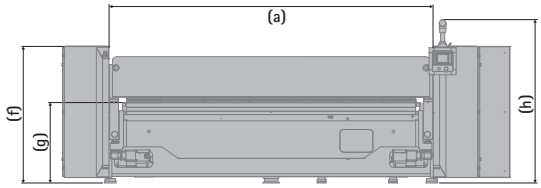
Dimensions and technical data

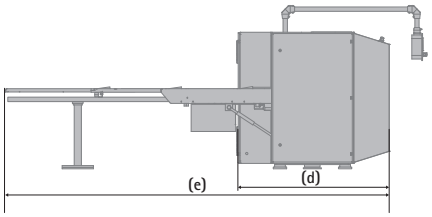
PowerBend Universal	2,000 × 4.0	2,500 × 4.0	3,200 × 3.0	4,000 × 2.5
Working length (a)	2,040 mm	2,540 mm	3,240 mm	4,040 mm
Sheet thickness (400 N/mm²)	4.0 mm	4.0 mm	3.0 mm	2.5 mm
Machine length (b)	3,814 mm	4,314 mm	5,014 mm	5,814 mm
Length of working area (c)	2,434 mm	2,934 mm	3,634 mm	4,434 mm
Machine width (d)	1,694 mm			
Machine width with sheet support table, 1,000 mm (e)	1,720 mm			
Machine width with manual gauge, 1,000 mm (e)	2,495 mm			
Machine width with sheet support table 1,600 mm (e)	2,558 mm			
Machine width with table in U shape (e)	3,433 mm	3,433 mm	4,308 mm	5,108 mm
Machine height (f)	1,530 mm			
Working height (g)	900 mm			
Machine height with swivel arm mount (h)	2,105 mm			
Weight of basic machine (ca.)	4,500 kg	5,100 kg	5,800 kg	6,700 kg
Clamping beam				
Geometry	48° (180°)	48° (180°)	48° (180°)	48° (180°)
Stroke	350 mm	350 mm	350 mm	350 mm
Drive power	3 kW/5.5 kW	3 kW/5.5 kW	3 kW/5.5 kW	3 kW/5.5 kW
Speed	20 (50) mm/sec	20 (50) mm/sec	20 (50) mm/sec	20 (50) mm/sec
Folding beam				
Drive power	2 × 2.2 kW	2 × 2.2 kW	2 × 2.2 kW	2 × 2.2 kW
Speed	48°/sec (85°/sec)	48°/sec (85°/sec)	48°/sec (85°/sec)	48°/sec (85°/sec)
Adjustment, manual/motorized	80 mm	80 mm	80 mm	80 mm

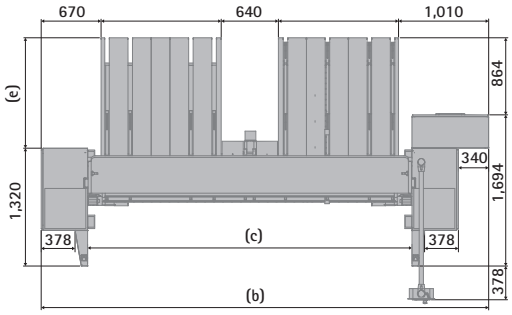
Standard tools can also be used to form rounded edges.

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

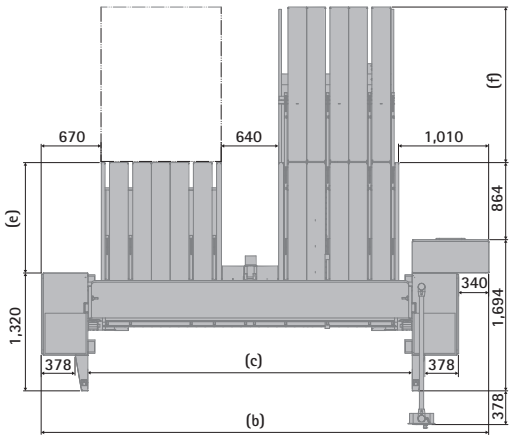
Dimensions: PowerBend Universal



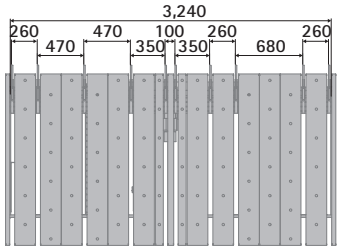




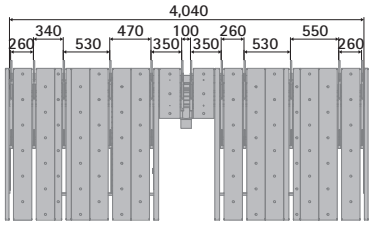
Special accessory extensions



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



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

FOLDING MACHINE

PowerBend Professional

PowerBend Professional

The PowerBend Professional folding machine is the professional solution to your thin sheet metal applications. This robust yet precise folder is ideal for continous operation in large workshops, mid-sized companies and the industry.

The motor-driven lowerable folding beam and the motorized folding centre adjustment are included in the standard version.

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 efficieny.

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.

Long or short runs

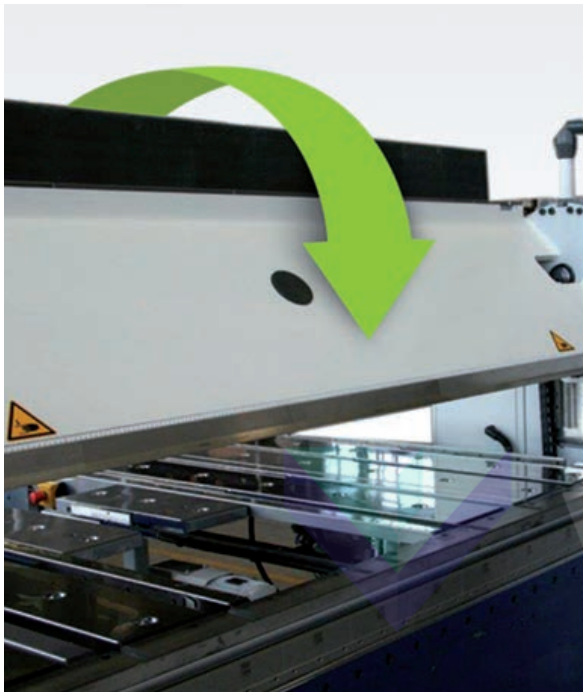
Challenging requirements in your industrial series production? The PowerBend Professional possesses the necessary robustness, reliability and repeat accuracy. At the same time the machine offers the flexibility your company needs for the production of short runs and prototypes. With the hydraulic tool clamping device and the optional rotating clamping beam, set up times can be drastically reduced. The result is a considerable increase in productivity.

Standard equipment	
Software control	– POS 2000 Professional PC based graphic control with touchscreen on swivelling arm
Clamping beam	– Drive: 3.0 kW, center drive (converter controlled, 20 mm/sec) – Trapezoidal spindle – Stroke: 350 mm – Clamping beam orientation: 48° or optionally 180° – Tool clamping device, hydraulic (WZS 2000)
Folding beam	– Drive: 2 x 2.2 kW (converter controlled, 85°/sec) – Tool clamping device, pneumatic (WZS 15000) – Adjustment, motorized: 80 mm – Folding centre adjustment, motorized: ± 20 mm – Crowning device, manual
Bottom beam	- Bottom beam blade 700N/mm² one-piece with finger grooves; Minimal gauge 10 mm (varies according to equipment)
Back gauge system	– Sheet support table with gauge up to 1600 mm (closed; 2 sectors with pneumatic lowering device, sheet support table with balls; recirculated ball srews (+/- 0,1 mm))
Others	– Standard machine without folding- and clamping beam tools – Radius-Step-Bending-Function – Footswitch – Anchor plates incl. dowels

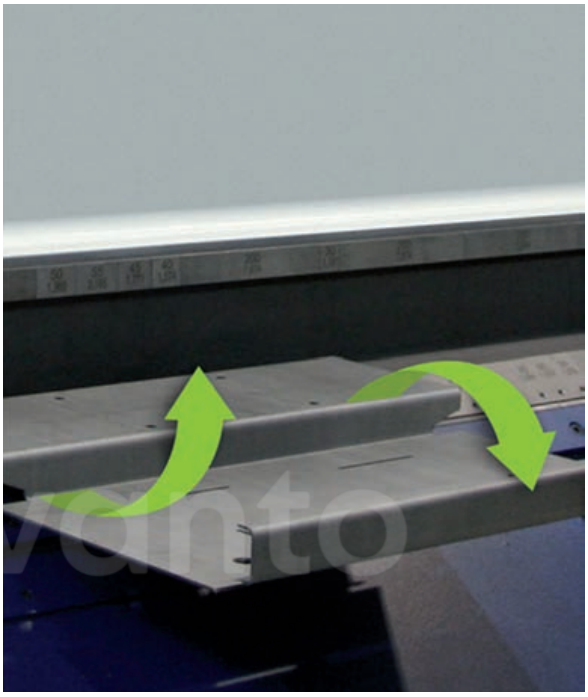
Special equipment	
Clamping beam	– Drive: 2 x 2.2 kW, center drive (65 mm/sec), axis with recirculated ball screws – Rotating clamping beam for two tool stations incl. hydraulic tool clamping device on both sides (requires 2 x 2.2 kW clamping beam drive)
Folding beam	– Central crowning device, motorized – High speed folding beam: 2 x 3.0 kW, 100°/sec
Up and Down-Technology package	– Operation from the front and the rear – When operating from the front: only up-bends possible – 2 x 2.2 kW Z-axis drive with recirculated ball screws – Motorized crowning device – Remote maintenance – External programming – Tilting of the clamping beam for improved performance – Up and Down bottom beam blade, one-piece, ca. 1100 N/mm², 30°, R 1/1,5/3,0 with finger grooves, minimal gauge 10 mm – Folding beam adjustment 160 mm (converter controlled) – U-gauge up to 1600 mm (2 sectors, balls in table) – Protection from the front via light barrier – 2nd footswitch on rail for lateral movement
Machine operation	– 2-man-operation – Additonally operation from the rear (2nd footswitch and protection via light barrier) – Footswitch on rail for lateral movement
Others	– Options for back gauge, please see p. 5 and p. 11 – Options for software control, please see p. 8-9 – Tools, please see p. 7

Options for increasing ergonomic efficiency

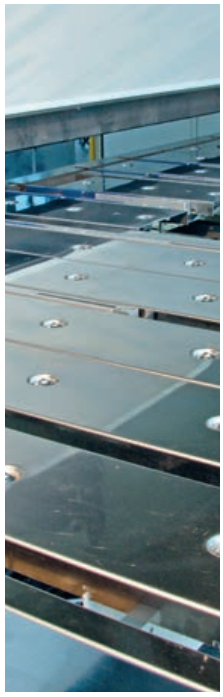
The PowerBend Professional comes extensively equipped to handle most jobs with ease. And for specific requirements, additional options are available, adding even more production efficiencies.



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.



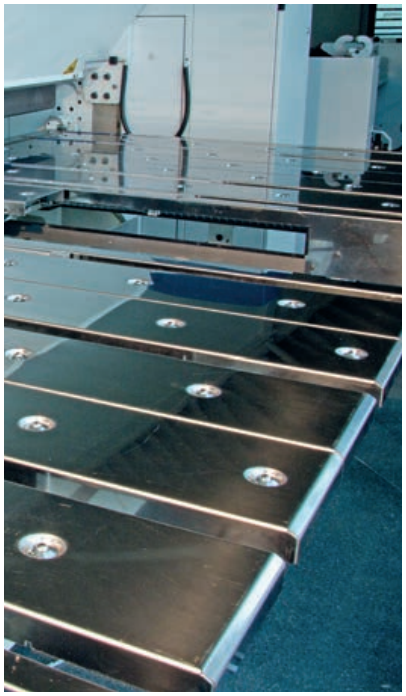
Fast changing jobs or complex tasks with different folding tools – the PowerBend Professional is open to all customer requirements. With the optional, rotating clamping beam the PowerBend Professional always has ready a second set of tools as well as an alternative machine geometry. – that creates clearances 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-bends. With the Up-and-Down function the folding beam is able to move around the workpiece, 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 sheet this means: less helping hands, less muscle power, lower level of risk for material surfaces. In short: better ergonomics, safety and productivity.

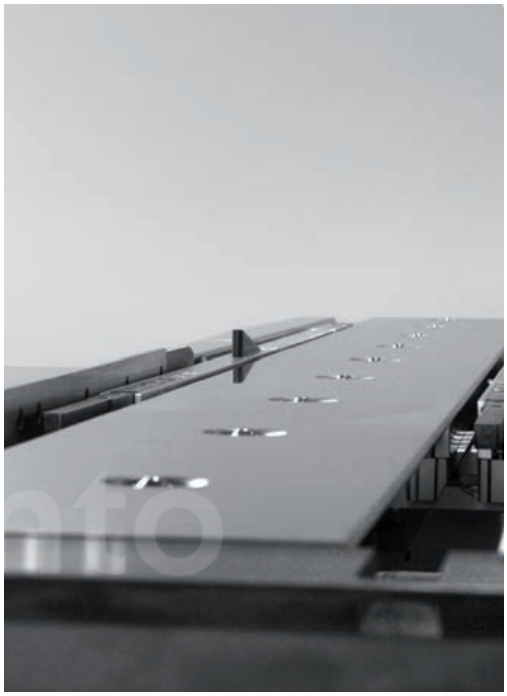
Gauge options for optimal handling

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

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



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 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 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 1600 mm gauge forms the basis (see page 11).

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 ±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 bends 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. With high-quality tools from Schröder you are able to fold exactly and to bend radii with highest precision.

Segmented tools

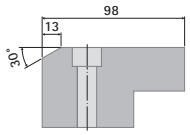
The hydraulic tool clamping device on the clamping beam reduces set-up times.

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

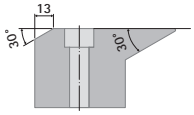
Always tidy: Use our practical tool cart for blades, rails and segmented tools as optional equipment.

Tool options

Bottom beam tools WZS* 16000/16100



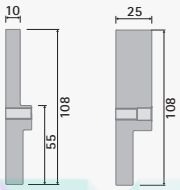
Bottom beam blade, one piece, 55 mm high, minimum gauge dimension 10 mm, with finger grooves, hardened ca. 1 100 /mm²



Up and Down Bottom beam blade, one piece, 55 mm high, 30°, R 1/1.5/3, minimum gauge dimension 10 mm with finger grooves, hardened ca. 1 100 N/mm²

Bottom beam blade, segmented, 55 mm high, minimum gauge dimension 10 mm, with finger grooves, hardened ca. 1 100 N/mm²

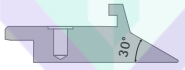
Folding beam tools, pneumatic clamping WZS 15100



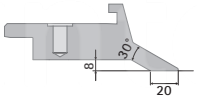
Segmented rail 10/15/20/25 mm, 108 mm high, ca. 700 N/mm² .
For hardened folding blades ca. 1 100 N/mm² also 35 mm blades available

With the Up and Down bi-directional bending for every folding blade width, one set of locking plates is required.

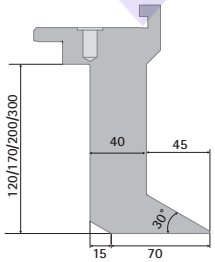
Clamping beam tools, hydraulic clamping, ca. 1 100 N/mm², surface-hardened WZS 2000



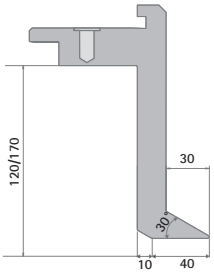
Sharp nose blade 20°/30°, R 1/1.5/3, segmented



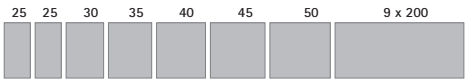
Tinsmith blade 20°/30°, R 1/1.5/3, clearance on the rear 8 mm, foot width 20 mm, segmented, s = 2.0 mm



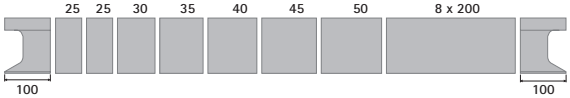
Goat's foot blade 120 mm (s = 3.0 mm) or 170 mm (s = 2.5 mm) high, 20°/30°, R 1/1.5/3, clearance 45 mm foot width 85 mm



Goat's foot blade 120 mm (s = 2.5 mm) or 170 mm (s = 2.0 mm) high, 20°/30°, R 1/1.5/3, clearance 30 mm foot width 50 mm



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

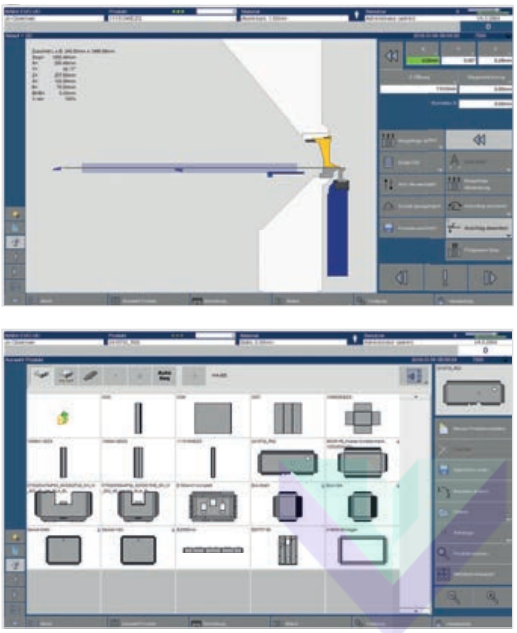


Example: segmentation of goat's foot tool at a working length of 2,040 mm (segmentation varies according to working length)

* WZS = Tool system

POS 2000 Professional

Intelligent graphic contol 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 contol POS 2000 Professional control 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

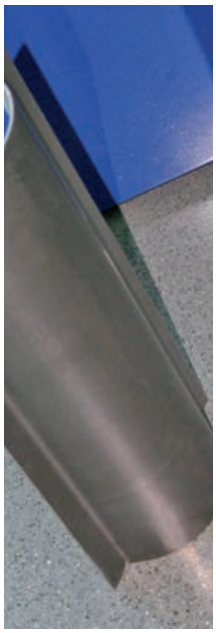
- Windows 7 operating system
- Unlimited profile storage
- Automatic cut length calculation
- Unlimited tool storage and materials library
- Accurately scaled virtual bending simulation
- Zoom function
- Speed of CNC-axes infinitely variable

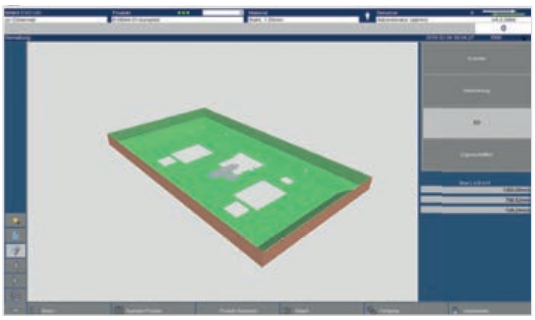
Options

- Radius-Step-Bending function
- External programming
  (POS 2000 Professional PC version)
- Remote maintenance
- 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 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.

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

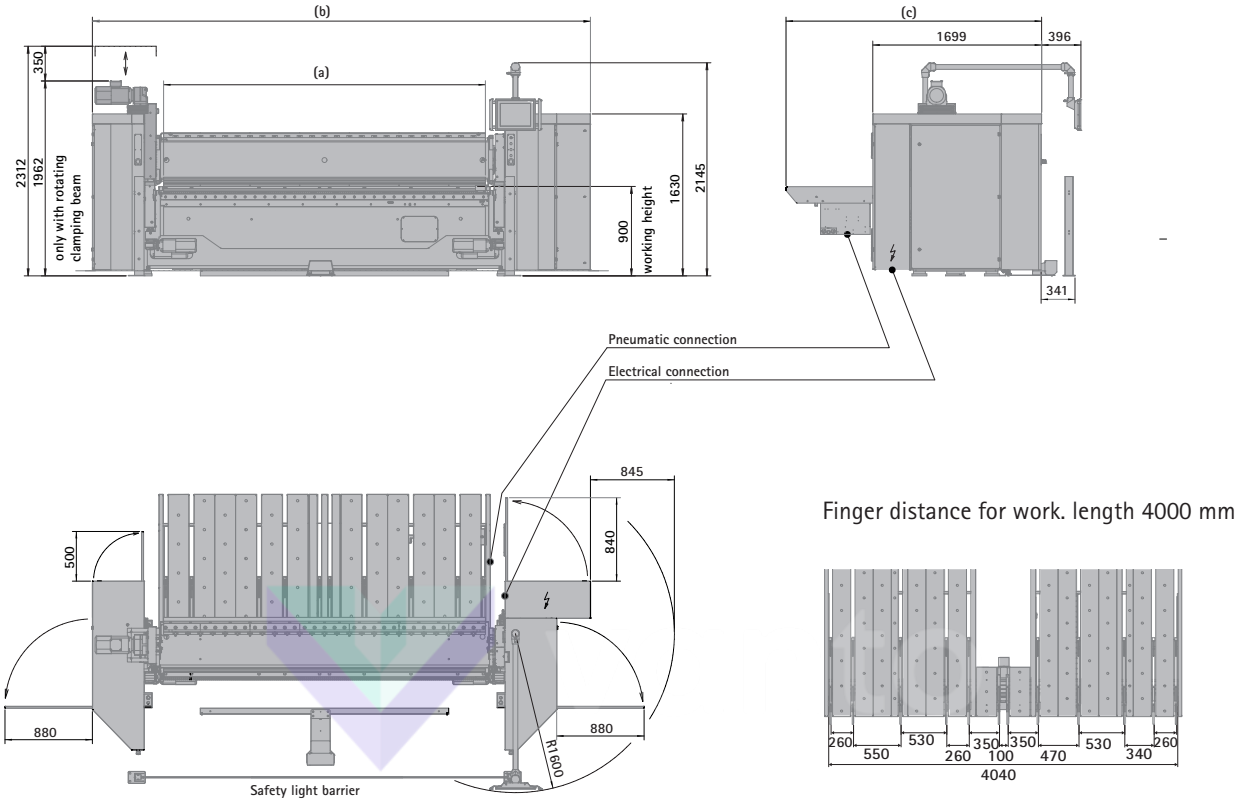
Dimensions and technical data

PowerBend Professional	2,500 × 4.0	3,200 × 3.0	4,000 × 2.5
Working length (a)	2,540 mm	3,240 mm	4,040 mm
Sheet thickness 400 N/mm²	4.0 mm	3.0 mm	2.5 mm
Machine length (b)	4,314 mm	5,014 mm	5,814 mm
Machine height with swivelling arm	2145 mm		
Machine height with rotating clamping beam	1962 mm		
Machine height with rotating clamping beam & max. travel distance	2312 mm		
Machine width with back gauge (c)			
1600 mm closed table	2573 mm		
U-1600	2573 mm		
U-2400	3,446	-	-
U or rather J-3200	-	4,305	-
U or rather J-4000	-	-	5,093
Weight of basic machine (ca.)	5,700 kg	6500 kg	7,400 kg
Weight of machine with rotating clamping beam (ca.)	6,500 kg	7,500 kg	8,500 kg
Clamping beam			
Geometry	48° (180°)	48° (180°)	48° (180°)
Stroke	350 mm	350 mm	350 mm
Drive power	3 kW/2 x 2.2 kW	3 kW/2 x 2.2 kW	3 kW/2 x 2.2 kW
Speed	20/65 mm/s	20/65 mm/s	20/65 mm/s
Folding beam			
Drive power	2 x 2.2 kW/2 x 3.0 kW	2 x 2.2 kW/2 x 3.0 kW	2 x 2.2 kW/2 x 3.0 kW
Speed	85/100 °/s	85/100 °/s	85/100 °/s
Adjustment, motorized	80 (160) mm	80 (160) mm	80 (160) mm
Folding centre adjustment-	± 20 mm	± 20 mm	± 20 mm

Segmented goat's foot blade, hydraulic tool clamping

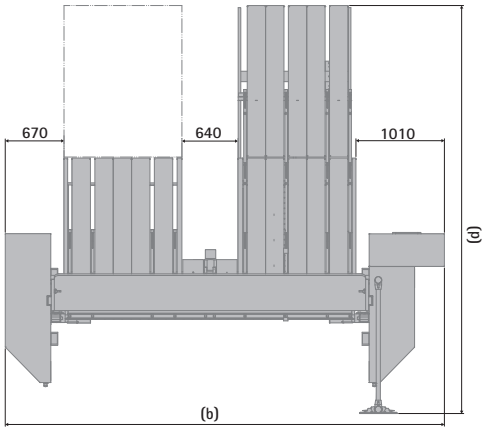
All specifications are considered as guidelines and may be subject to changes at any time.
* Differing specifications for the Up-and-Down function are in brackets.

Dimensions: PowerBend Professional

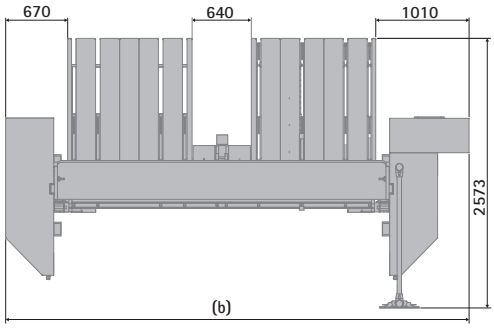


Finger distance for work. length 4000 mm

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 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

FOLDING MACHINE

PowerBend Industrial UD

PowerBend Industrial UD

The PowerBend Industrial UD is our new 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
- Option: 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
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, 1100 N/mm²; minimal gauge 20 mm
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	– Protection via light barrier for operation from the front – 2nd foot switch on rail for lateral movement – Protection from the clamping beam via light barrier
Others	– Standard machine without clamping beam- and folding beam tools – 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	– Tool positioning display alongside the clamping beam – Production Status Indicator Lights – Voltage transformer 30 kVA – Air conditioner – 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

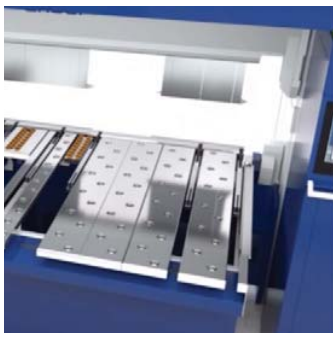
Up-and-Down folding beam

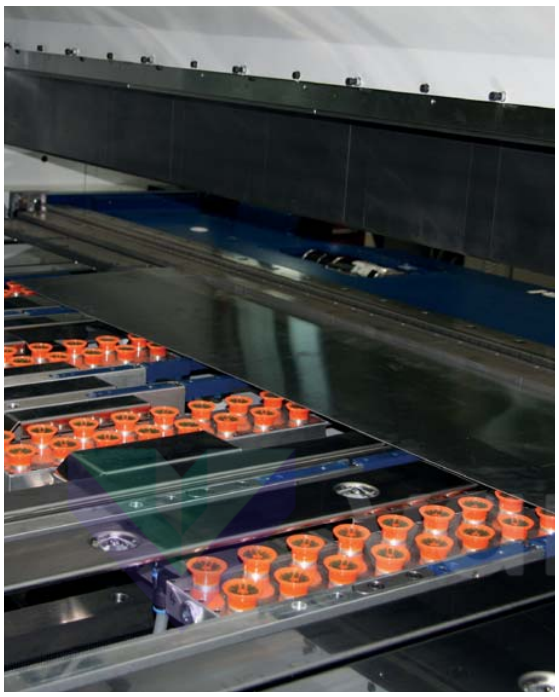
You will love this function: The Up-and-Down-folding beam allows counterfolds in one processing step, e.g. boxes with Z-bends. With the Up-and-Down function the folding beam is able to move around the work-piece, being able to bend from below and from above. For counter foldings the sheet therefore does 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 gauge forms the basis.

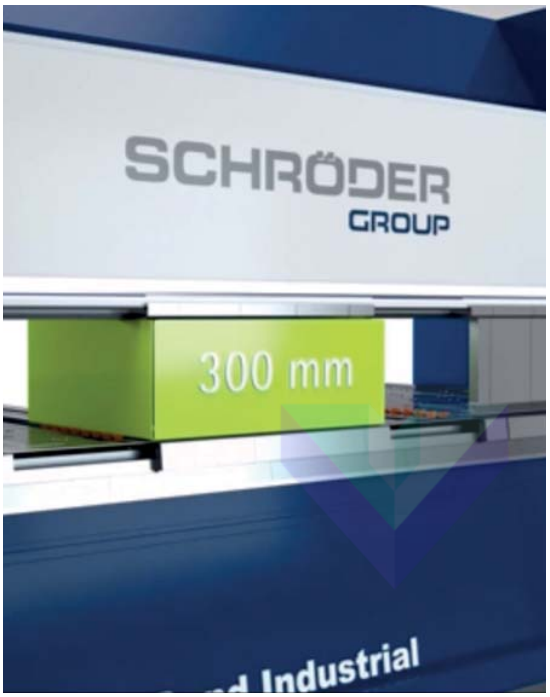
In order to ensure highest precision during the bending process, the motorized back gauge consists of high precision ball screws with an accuracy of ±0,1 mm.

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

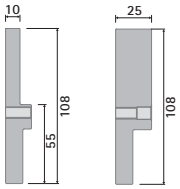
Thanks to various tools the PowerBend Industrial is able to handle most complex folding tasks. For every product we can offer you a wide range of segmented tools, that can be changed fast and easily thanks to a hydraulic tool clamping device. The clamping beam stroke of 650 mm enables the use of 300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

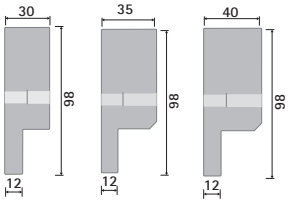
Tool options

Folding beam tools, hydraulic clamping WZS 15100 / 15200



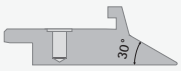
Folding blades segmented
10/15/20/25 mm,
108 mm high,
ca. 1100 N/mm²
(WZS 15100)

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

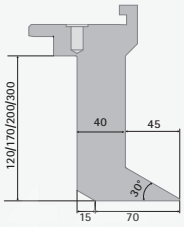


Folding blades segmented
30/35/40 mm,
98 mm high,
ca. 1100 N/mm²
(WZS 15200)

Clamping beam tools, hydraulic clamping, ca. 1 100 N/mm², surface-hardened WZS 2000



Sharp-nose blade
20°/30°, R 1/1,5/3,
divided



Goat's foot blade
120/170/200/300 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
(segmentation varies according to working length)

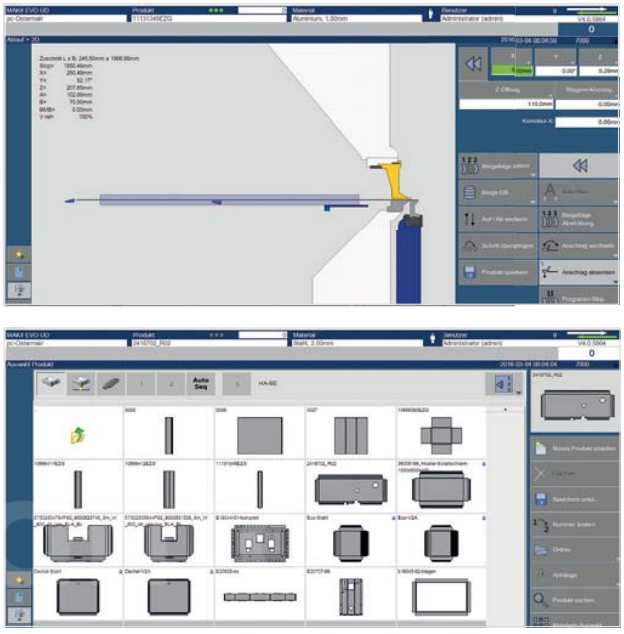
Optional:
Tool positioning display

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 .

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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

Options

- Radius function
- External programming
  (POS 2000 Professional PC-Version)
- Remote maintenance
- Positioning against the folding beam

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

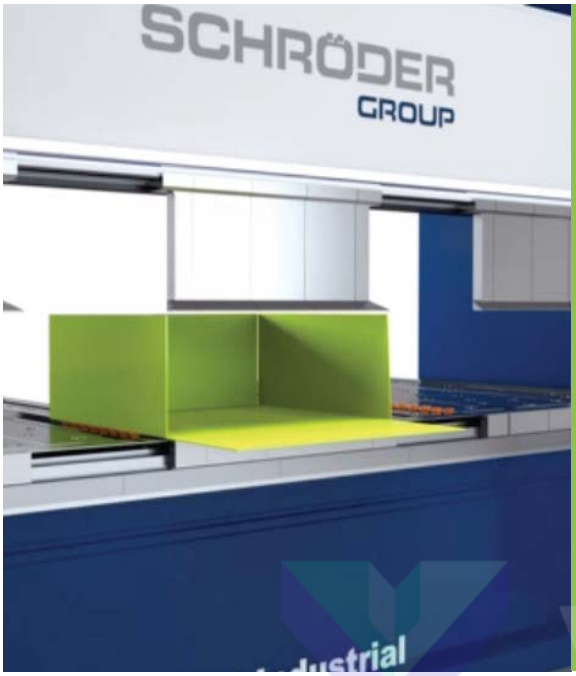
Umcomplicate and simple – Unfold software „SCHÖDER Unfold"

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 × 6.0	4,000 × 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)	5078 mm	5878 mm
Machine height max.	2604 mm	
Machine width with back gauge (c)		
U-1600	2953 mm	
U- or rather J-3200	4685 mm	-
U- or rather J-4000	-	5473 mm
Weight of basic machine (ca.)	12600 kg	15200 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

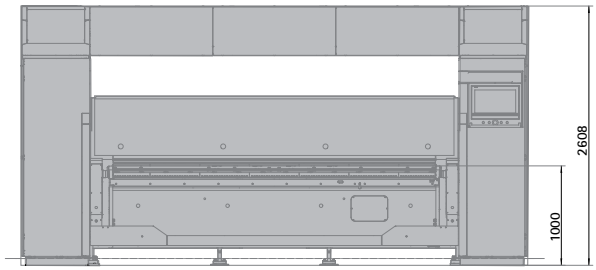
All specifications are considered as guidelines and may be subject to changes at any time.

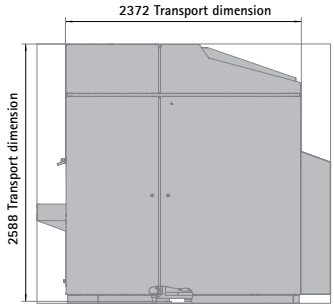
With the PowerBend Industrial, Schröder Group presents a new motorized folding machine that brings together speed and performance better than ever before. This new solution aims at serial production and bends up to 6 mm thick steel sheets upwards and downwards. It is characterized by a 650 mm clamping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

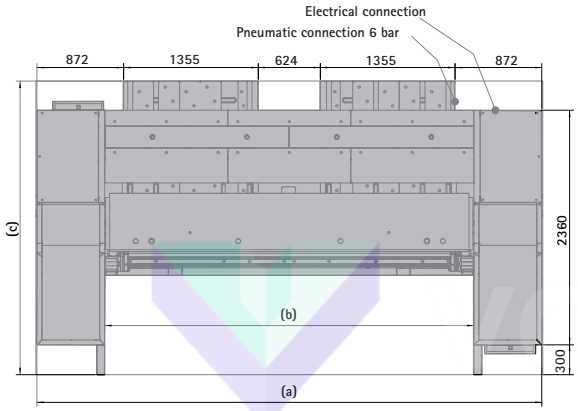
Drives

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).

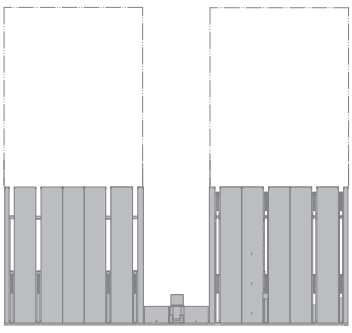
Dimensions: PowerBend Industrial



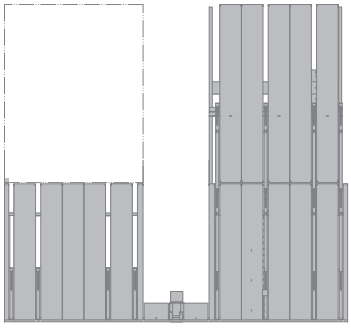




Special back gauge extensions



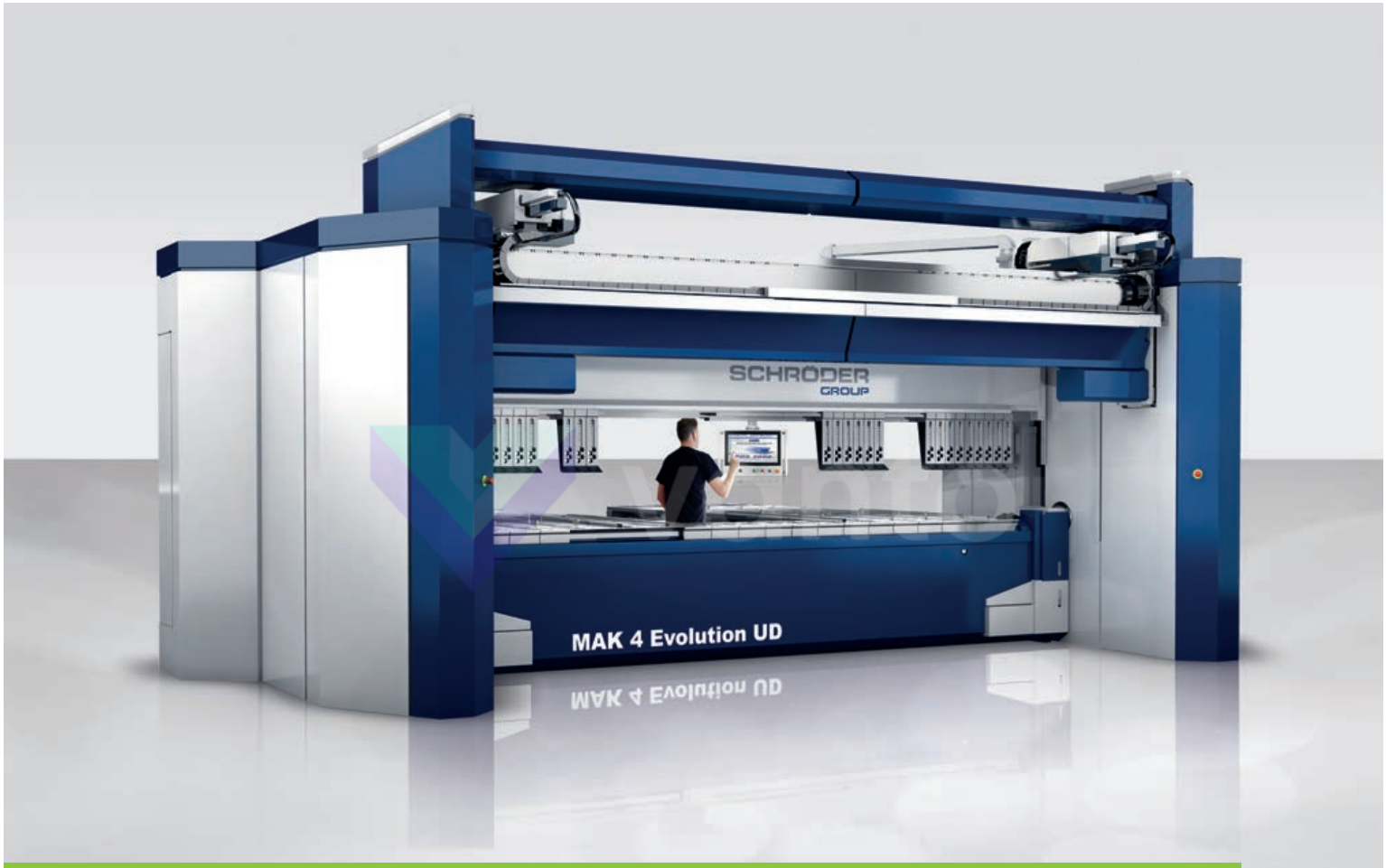
U-shape 3 200, 4 x 800 mm
U-shape 4 000, 5 x 800 mm



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



UNIVERSAL FOLDING MACHINE

MAK 4 Evolution UD

MAK 4 Evolution UD

The MAK 4 Evolution UD is our solution for complex tasks involving industrial sheet metal working – powerful, precise, and extremely efficient.

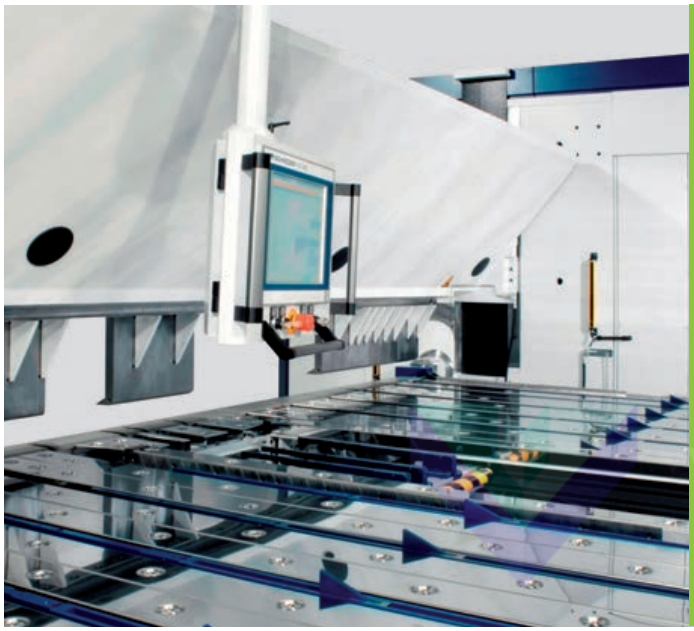
The Evolution series combines the Schröder groups' many years of experience in sheet metal folding with pioneering innovations: precise linear drive, graphical programming, and an automatic tool changer.

With the MAK 4 Evolution UD you are able to work more productively thanks to the „up-and-down" technology. All of this opens up new opportunities to your company for processing sheet metal – for faster, more flexible production and reduced costs per unit.

The MAK 4 Evolution UD enables you to turn your customer's increasing demands in quality, flexibility, and speed into competitive advantages for your company. No matter whether complex sheet metal forming needs to be particularly precise, short-notice individual orders need to be managed reliably, or pieces of sheet metal need to be processed quickly and efficiently for standard products, the MAK 4 Evolution UD makes it all possible.

Up-and-down technology reduces processing times

Minimize handling costs at the machine and trust Schröder's proven "up-and-down" technology. More processing steps in shorter times.



Efficiency in detail: flexible back stop and operating panel

MAK 4 Evolution UD	3,200 x 6.0	4,000 x 5.0	5,000 x 4.0
Working lengths	3,240 mm	4,040 mm	5,040 mm
Sheet thickness 400 N/mm²	6.0 mm	5.0 mm	4.0 mm
Length	6,420 mm	7,220 mm	8,220 mm
Width	2,652 mm	2,652 mm	2,652 mm
Width with U shape	5,150 mm	6,000 mm	6,810 mm
Machine height	2,748 mm	2,748 mm	2,748 mm
Basic machine weight	17,054 kg	18,278 kg	20,885 kg
Clamping beam			
Geometry	180°	180°	180°
Stroke	850 mm	850 mm	850 mm
Drive power	2 x 9.45 kW	2 x 9.45 kW	2 x 9.45 kW
Speed	100 mm/s	100 mm/s	100 mm/s
Clamping force	120 to	120 to	120 to
Folding beam			
Drive power	2 x 9.4 kW	2 x 9.4 kW	2 x 9.4 kW
Speed	150°/s	150°/s	90°/s
Folding beam adjustment	180 mm	180 mm	180 mm
Folding centre adjustment	100 mm	100 mm	100 mm

Worry-free equipping: automatic tool changer

Precise and extremely fast: Just one click on the controls, and the fully automatic tool changer converts the clamping and folding beams for the next order in just a few seconds. This option effectively allows you to reduce preparation times for small series, minimize equipping errors, and increase output at the same time.

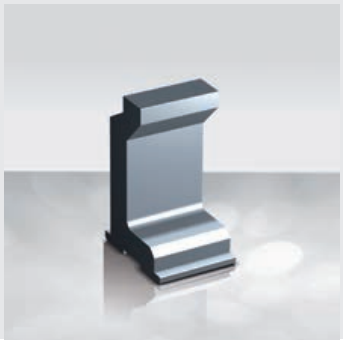
Visual aids help programming: graphical programming and controls

When process experience and extensive technical knowledge are arranged using modern IT, good software is the result. Schröder's POS 3000 3D graphical controls enable you to program complex, multi-step sheet metal forms comfortably and reliably. The graphic simulation allows you to check every step, which means the end of trial and error and results in the highest quality, right from the first bend.

Your individual solution: Speed Optimizer and more...

Industrial sheet metal folding perfection – the MAK 4 Evolution UD features numerous extra options and interesting details like especially rigid frames and main modules, extended opening heights (optional 1030 mm clamping beam), strong drives, speed optimizer, float-free planetary drive motors, options for back and front stops, or a safety PLC with light barriers to make the work areas safer.

Two rotating units with one gripper arm each remove the tools from the magazine



The right tool is the key to success: If required, we can add customer-specific developments to the wide range of tools we offer.

Equip quickly and safely

We have the remedy for long tool changing and machine downtimes: our fully automatic tool changer

The MAK 4 Evolution UD may be equipped with a fully automatic tool changer. In just a few seconds, the clamping beam (and optionally the folding beam) can be equipped with tools. Two rotating units operated via highly precise linear drives remove the tools from the magazine using one gripper arm each and then position them in the tool clamping device or disassemble the current tools.

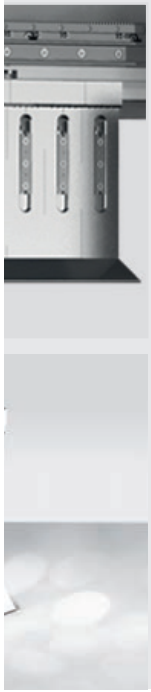
All information about products, upcoming orders, and the required tools are received by the tool changer via Schröder's POS 3000 control software.

The fully automatic tool changer of the MAK 4 Evolution UD addresses the central challenges of your production processes:

- **Shorten equipping times**
  Minimize downtimes, shorten processing times, increase output and efficiency.

- **Avoid errors**
  The wrong tool is a frequent cause of errors in sheet metal forming. Errors can be avoided with automatic tool equipping. Quality increases, waste and costs are reduced.

- **Produce more flexibly and cost-effectively**
  The production lot sizes are decreasing – with automatic tool changing, even small lot sizes and single pieces are no longer to be feared as lost efficiency and a source of errors. Your company can make cheaper offers and generate additional orders.



Variable tools for any requirement

Drives, tools, stops... Quality is present right down to the details.

The right tools and accessories for any requirement

The MAK 4 Evolution UD has been designed by our engineers as a flexible platform that you are able to expand into your individual solution using tools, options, and accessories.

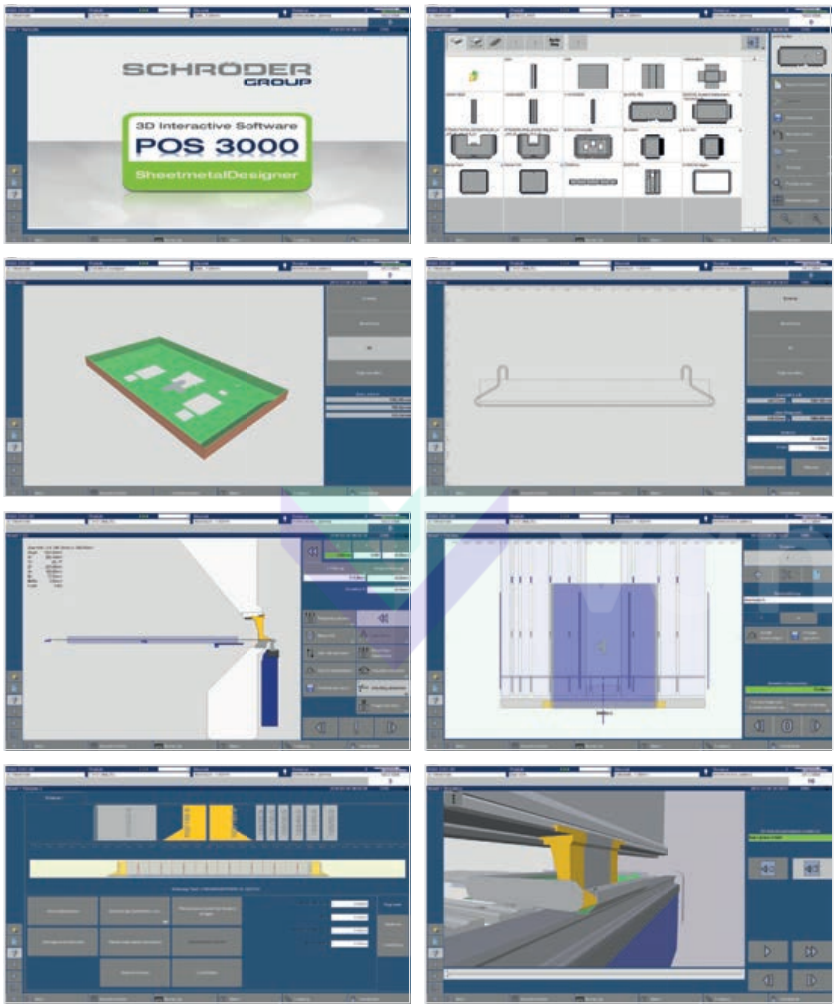
The extensive equipment includes POS 3000 3D graphical controls, folding centre and motorized folding beam adjustment, positioning back stops arranged between U shape and sectors, left and right lateral angle gauges, removable support sheets, hydraulic tool clamping, pneumatic pop-up stop fingers, manual central crowning device, and a protection via light curtain controlled by safety-PLC for work safety.

The tools and options open up even more possibilities to you

- **Special accessories**
  - Motorized crowning device, central adjustment
  - Z-axis drive Speed Optimizer (up to 120 mm/s axis speed)
  - Tool cart for blades, rails and segmented tools
- **Gauge**
  - 2 pneumatic pop up square arms assembled aisle side
- **Clamping beam tools**
  - Sharp noose blade (20/30°)
  - Goat's foot blade (120/180/250/300 mm, segmented incl. corner parts)
- **Bottom beam tools**
  - One piece bottom beam blade
  - Segmented bottom beam blade
- **Folding beam tools**
  - Folding blade, segmented, ca. 1100 N/mm² 10/15/20/25/30/35/40/50 mm

Programming top performance

Visualize quality: POS 3000 3D graphical controls with simulation



POS 3000 3D graphical controls: see the results with your own eyes, from the first steps up until the simulation

Numerous possibilities: "up-and-down" technology and large opening heights create new possibilities.

Only the correct software makes hardware into a flexible, easy to operate solution. With their POS 3000 3D graphical controls, sheet metal folding 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 MAK 4 Evolution UD and POS 3000 3D graphical controls are a perfect match.

Bottom beam blade with finger tools

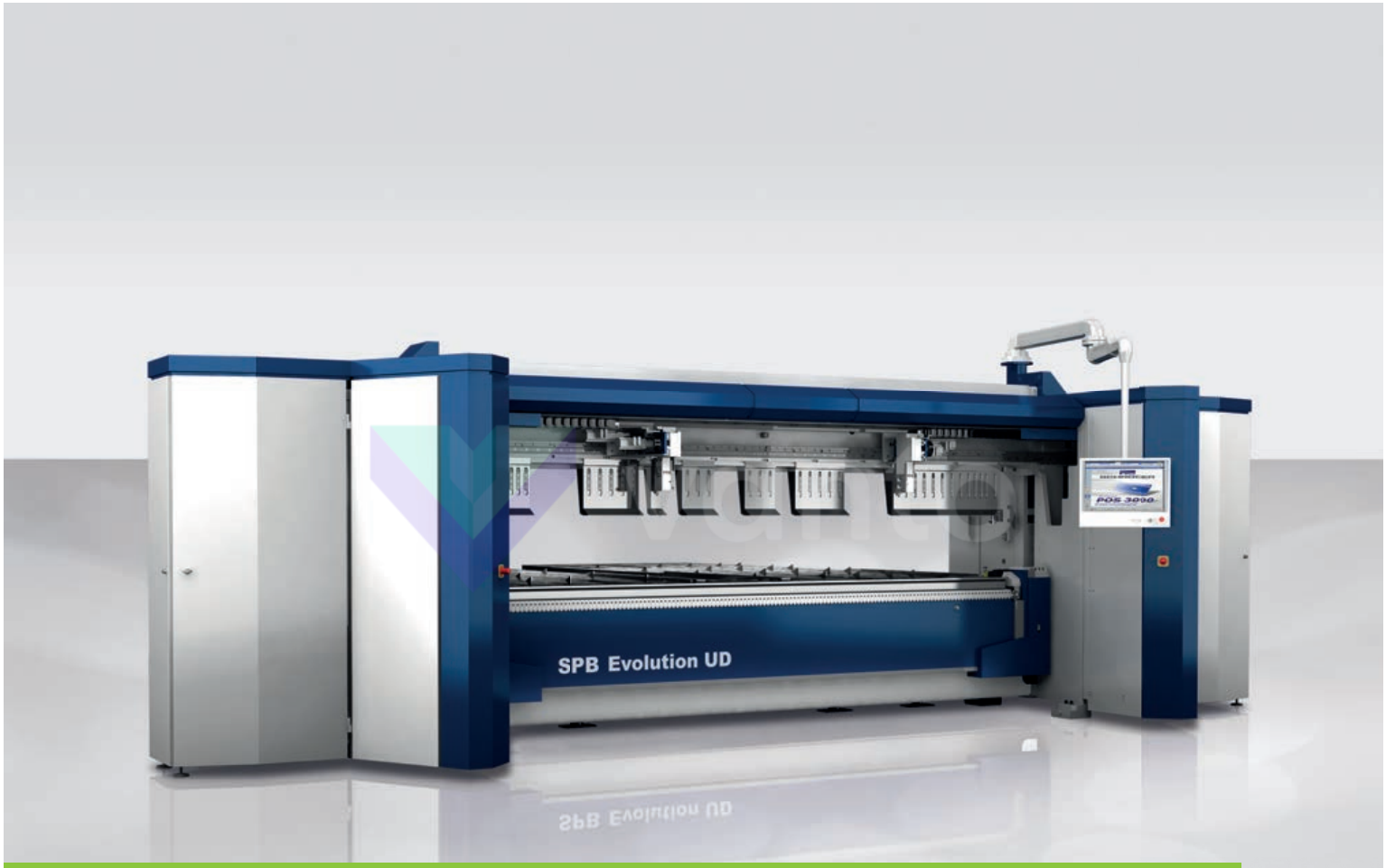
Special feature: Program graphically with the POS 3000. The machine, tool, and work piece are all clearly displayed. Since ultimately, we know that: operating staff and preparation employees have a better eye for products and not for IT programming lines. That's why your employees bend visually beforehand on the screen and check the result in the 3D bending simulator, which means they can be sure that the sheet metal will be processed perfectly from the first bend. Bending programs that have already been created can be called up again quickly, checked visually, and corrected according to material requirements.

Do you want to learn more about the POS 3000 3D graphical controls? 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 graphical controls including a schematic depiction of the machine, tool, and work pieces
- Intuitive, visual touchscreen programming
- 3D bending simulator for visual program inspection
- Tool equipping programming and controls for automatic tool changer
- Cycle time calculator
- High-speed data transmission to frequency inverters (Ethernet Power Link)
- PC version, CAM connection, ERP/PPS interfaces, and DXF converter available
- Remote maintenance via Schröder's software service

SCHRÖDER GROUP



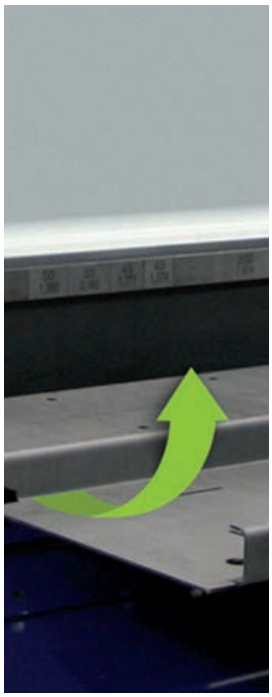
FOLDING MACHINE

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.

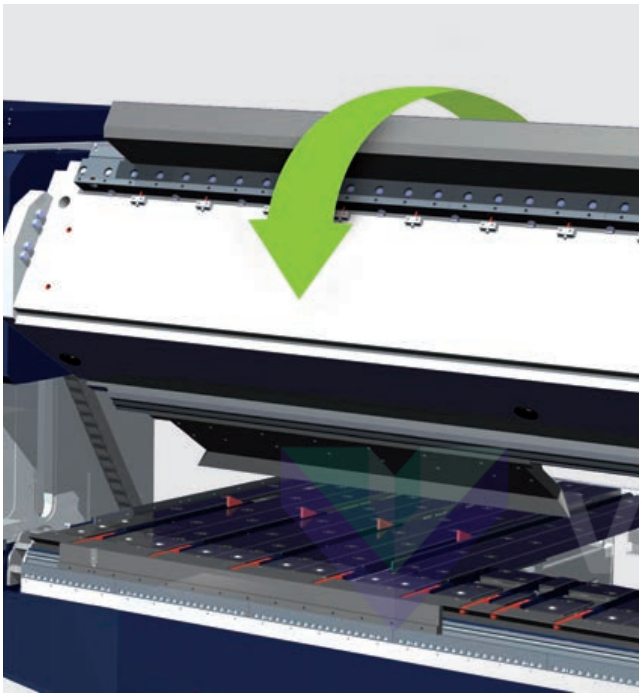
Standard equipment

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

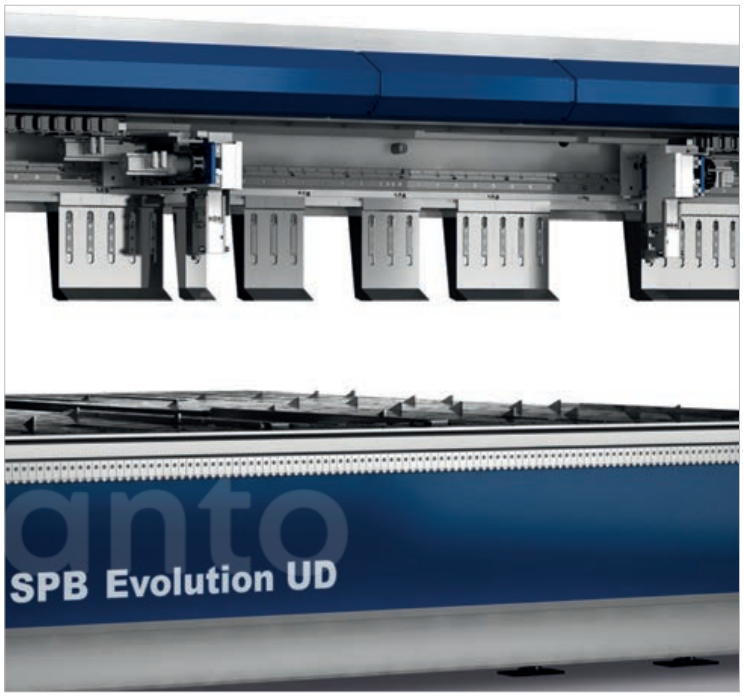
Special equipment

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.

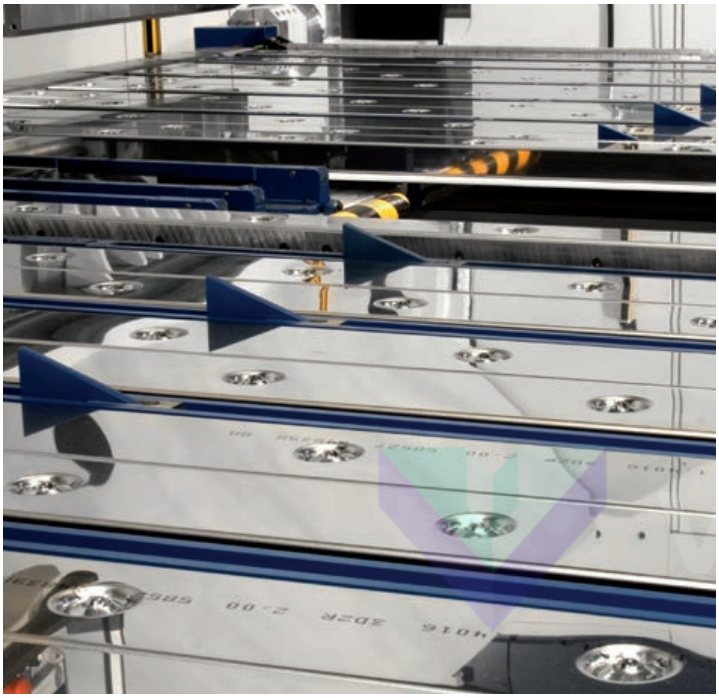
Automatic tool changer

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.

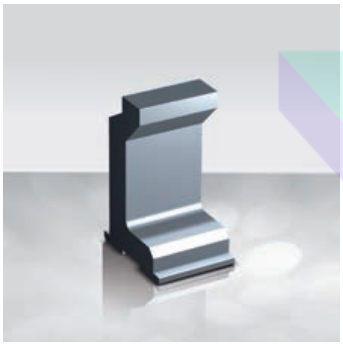
Ball transfers placed throughout the sheet support system provide a frictionless surface on which the workpiece is easy manipulated. The standard back gauge of the SPB Evolution UD offers a sheet support in U-shape which allows to gauge 10 - 2250 mm, 10 - 3400 mm or 10 - 4250 mm respectively. The gauge 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.



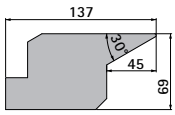
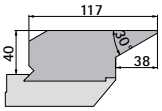
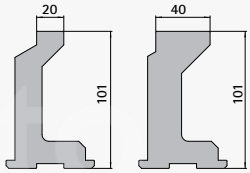
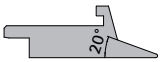
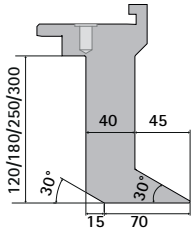
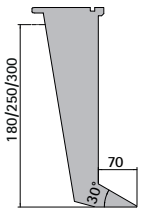
Segmented tools – on request also as individual solution

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.

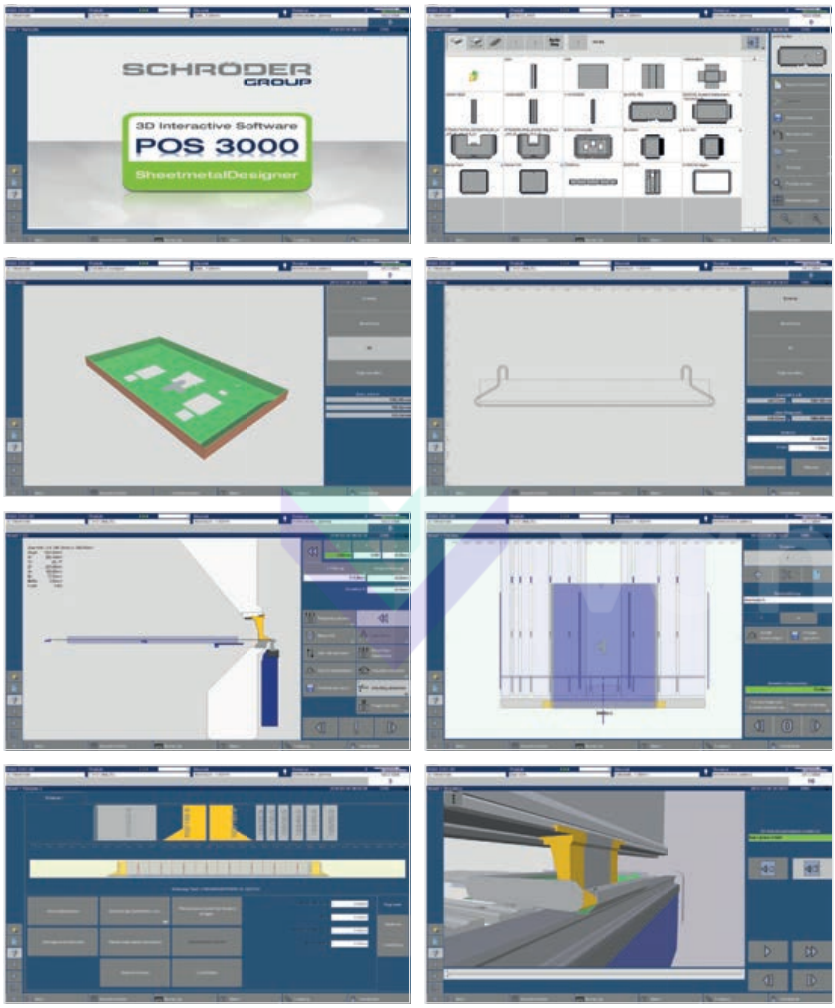
Special equipment tools

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

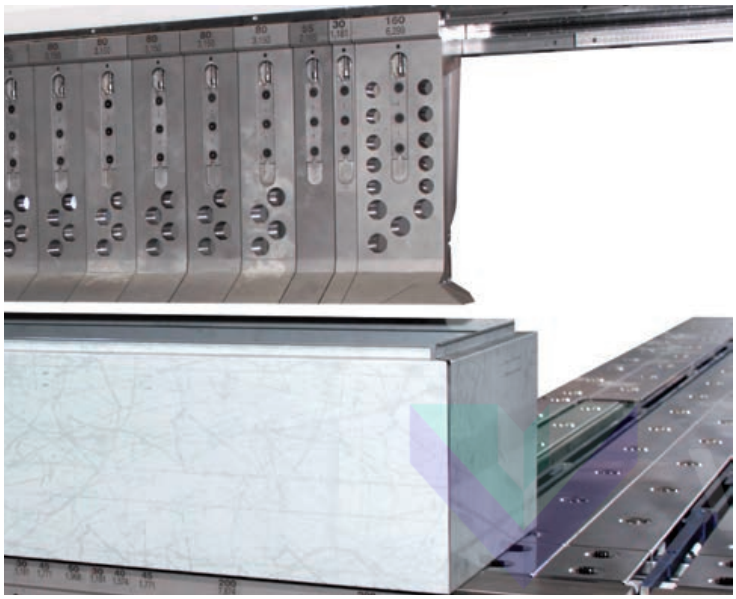
Many things are possible: Up-and-Down-technique and huge opening heights create new possiblities.

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

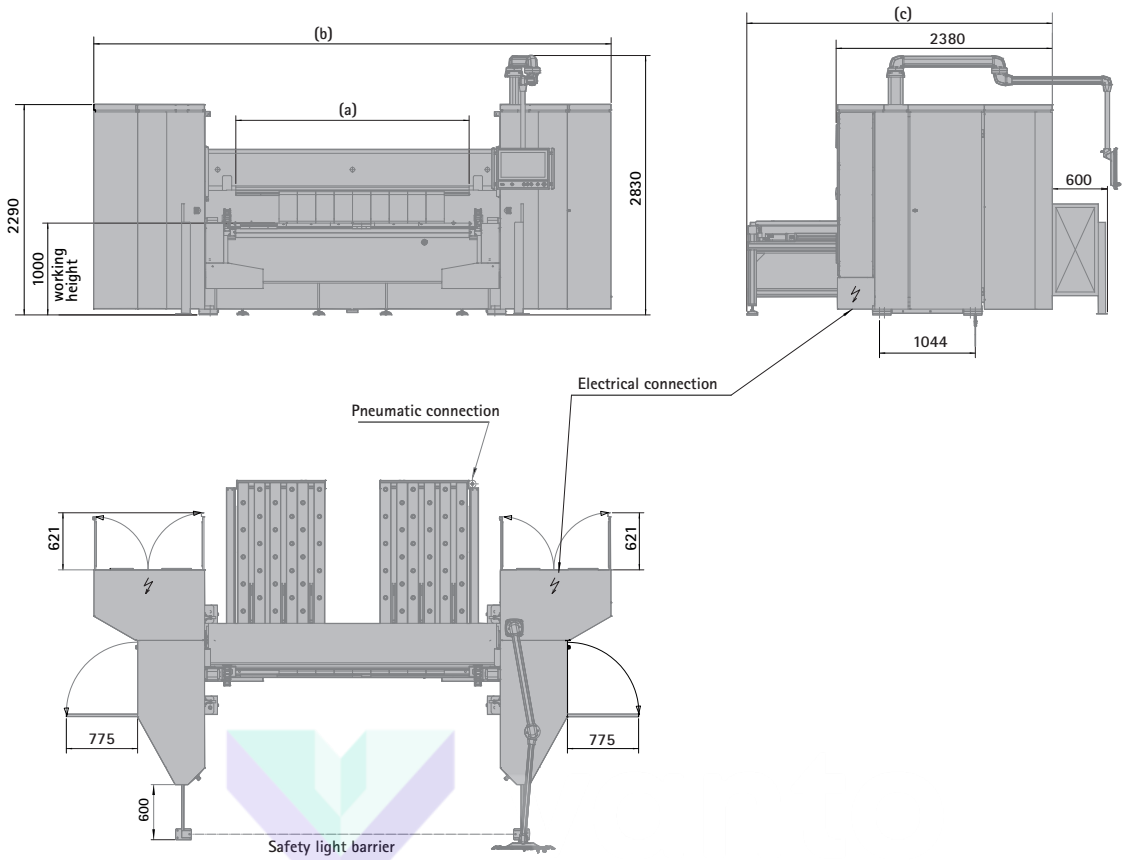
Dimensions and technical data

Bottom beam blade with finger grooves

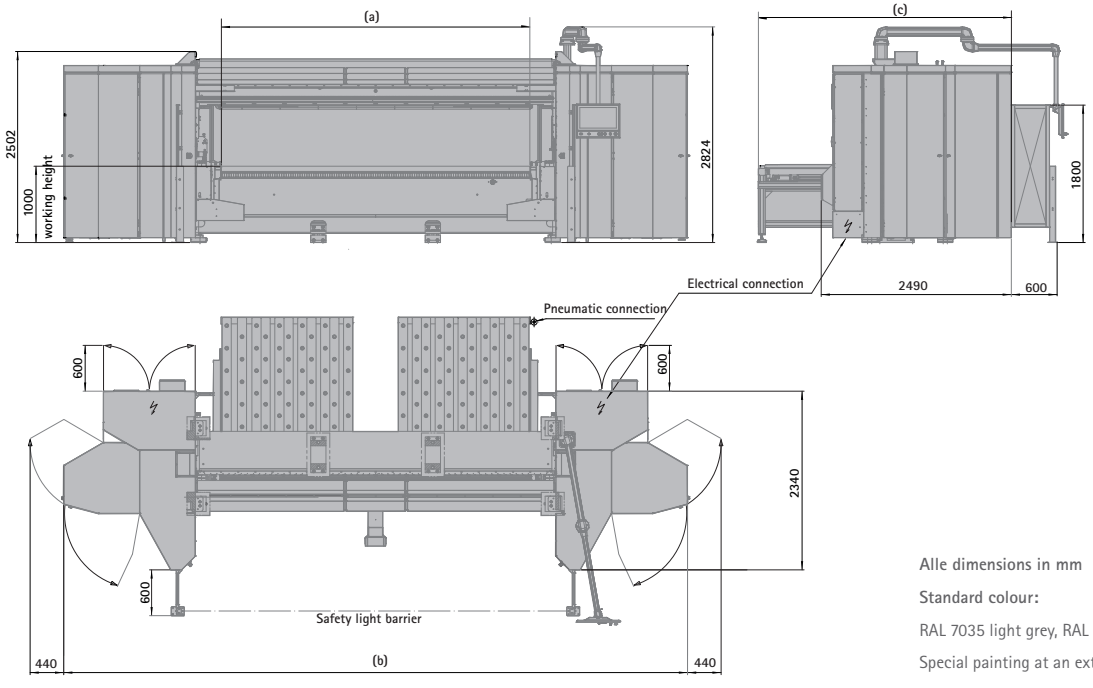
SPB EVOLUTION UD	2 500 x 5,0	3 200 x 4,0	4 000 x 3,0
Working length (a)	2,540 mm	3,240 mm	4,040 mm
Sheet thickness (400 N/mm²)	5.0 mm	4.0 mm	3.0 mm
Machine length (b)	5,632 mm	6,332 mm	7,132 mm
Machine length (b) with WZW[1]	6,670 mm	7,370 mm	8,170 mm
Back gauge (c)			
U-2,250	4,300 mm	-	-
U-3,400	-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

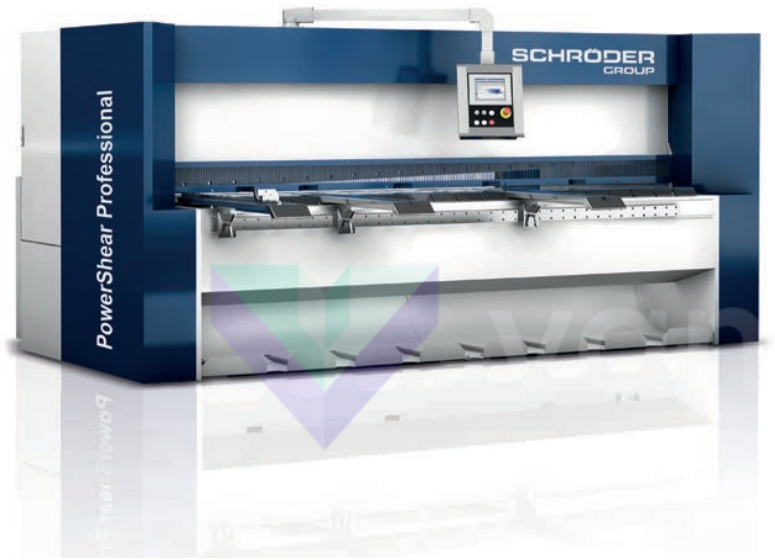
SCHRÖDER GROUP

HYDRAULIC SHEARS

PowerShear Professional/Universal/Basic

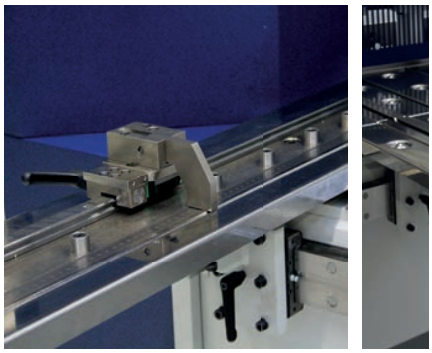
Hydraulic shear
PowerShear Professional

The hydraulic shear PowerShear Professional is the industrial solution in order to cut loads of big sheets at high speed. The robust and yet precise machine is ideal for continuous operation in workshops, mid-sized companies and the industry.



The PowerShear Professional with energy-efficient drive ensures precise, burr-free and torsion-free cuttings.

Option: Movable angle gauge on guide rail



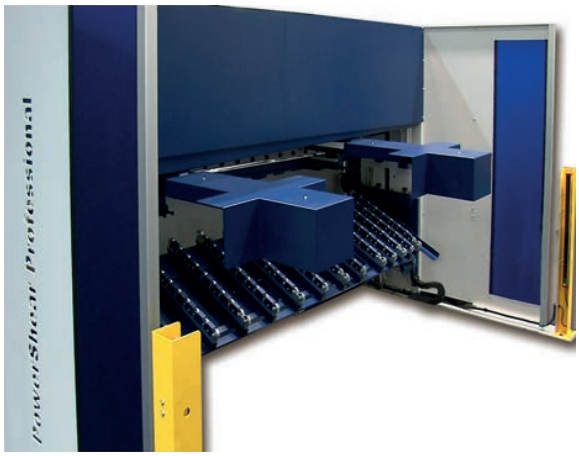
Sheet support, pneumatically controlled

The design of the extreme rigid machine body of the new PowerShear Professional is based on decades of experience in industrial cutting. It was engineered with state of the art tools, using the finite elements method and computer simulations.

Thanks to an energy-efficient drive with a converter-controlled motor and a hydraulic pump, the machine is able to handle the most difficult cutting operations and materials. Besides single-cut operations also serial production is possible by using a converter-controlled motorized back gauge.

The advanced electronic control for programming cutting steps is operated via a touch display.

Rear view:
Motorized back gauge and sheet support as well as rear light barrier



Moveable table extension
on guide rail

Sheet shute to the front

Standard equipment: PowerShear Professional
8" Touchscreen control on swivel arm incl. CF-memory card
Energy-efficient drive with converter-controlled motor and hydraulic pump
Automatic calculation of motorized blade gap adjustment (controlled via two motors), incl. shear angle adjustment
Converter-controlled motorized back gauge 10 - 1000 mm
Sheet support, pneumatically controlled
Scrap and part separator to the front for segments up to max. 200 mm
„Return to Sender" function
Free passage of material (swing away back gauge rail) in order to cut sheets with a gauge width > 1000 mm
LED illumination of cutting line
Programmable start- and end position of the cutter bar
1x angle gauge 1000 mm mounted on the left side incl. automatic tipping gauge and ball rollers
2x table extensions 1000 mm with T-slot and scale and ball rollers
Closed sheet support table with exchangeable stainless steel plates incl. ball rollers
Obligatory CE safety package

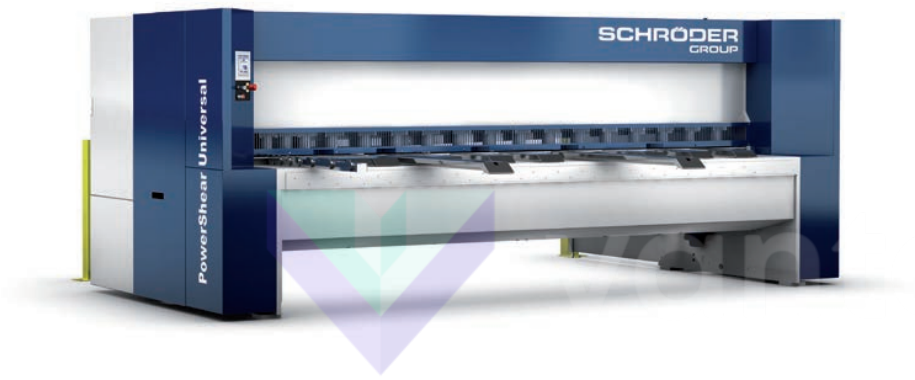
Special equipment: PowerShear Professional
Package 1: Movable angle gauge 1000 mm mounted on the left side incl. automatic tipping gauge on linear guide and 2 movable table support arms on guide rail equipped with ball rollers (for variable cutting positions)
Package 2: Movable angle gauge 1000 mm mounted on the left side incl. electronic length measurement system, fine adjustment, lateral tipping gauge on linear guide and ball rollers and 2 movable table support arms on guide rail equipped with ball rollers

Technical data	3000 x 6,0	4000 x 6,0
Working length [mm]	3 040	4 040
Sheet thickness 400 N/mm²	6,0	6,0
Sheet thickness 700 N/mm²	4,0	4,0
Shear angle adjustment [°]	0,5 - 1,8	0,5 - 1,8
Machine width [mm]	3090	3090
Machine length [mm]	4000	5000
Machine height [mm]	1969	1969
Weight [kg]	6500	8400
Stroke [pro.min.]	24-61	20-56
Drive power [kW]	12,0	12,0

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

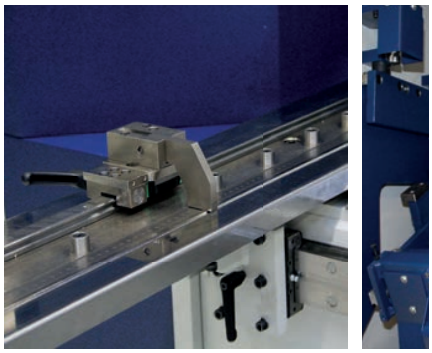
Hydraulic shear
PowerShear Universal

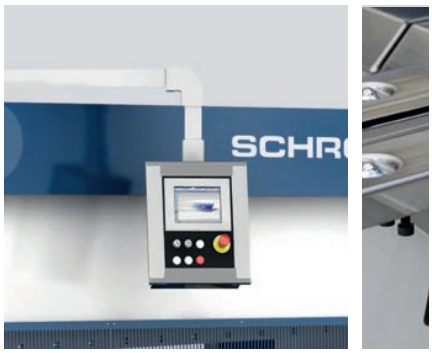
The hydraulic shear PowerShear Universal is the versatile solution for sheet metal working in production and repair shops.



Thanks to its high cutting speed the PowerShear Universal makes your work much more efficient and time-saving.

Option: Movable angle gauge on guide rail





Option: touchscreen control CGS 80 on swivel arm

The name speaks for itself: This universally applicable hydraulic shear has been especially designed to meet the demands of small and midsize businesses. In order to find a versatile solution for all applications up to 6 mm steel sheet, Schröder-Fasti Technologie GmbH relied on decades of experience in industrial cutting.

The PowerShear Universal offers optimum precision, longevity and stability. Therefore we have engineered an extremely rigid machine body using state of the art tools and finite element analysis.

The 8" touch control system is mounted in the protection cover as standard. Cutting programs can be programmed quickly and with no computer skills. Optionally the software control can also be mounted on a swivel arm in order to allow more flexibility.

The PowerShear Universal is the hydraulic shear that guarantees smooth efficient operation.

Sheet support,
pneumatically controlled

Moveable table extension
on guide rail

Standard equipment PowerShear Universal
8" Touchscreen control mounted in protection cover (possiblitiy of saving on CF-Card)
Programming of cutting programs
Energy-efficient drive with converter-controlled motor and hydraulic pump
Automatic calculation of motorized blade gap adjustment (controlled via two motors), incl. shear angle adjustment
Converter-controlled motorized back gauge 10 - 1000 mm
Sheet support, pneumatically controlled
LED illumination of cutting line
Programmable start- and end position of the cutter bar
1x angle gauge 1000 mm mounted on the left side
2x table extensions 1000 mm with T-slot and scale
Table with exchangeable stainless steel plates with recessed grips
Obligatory CE safety package

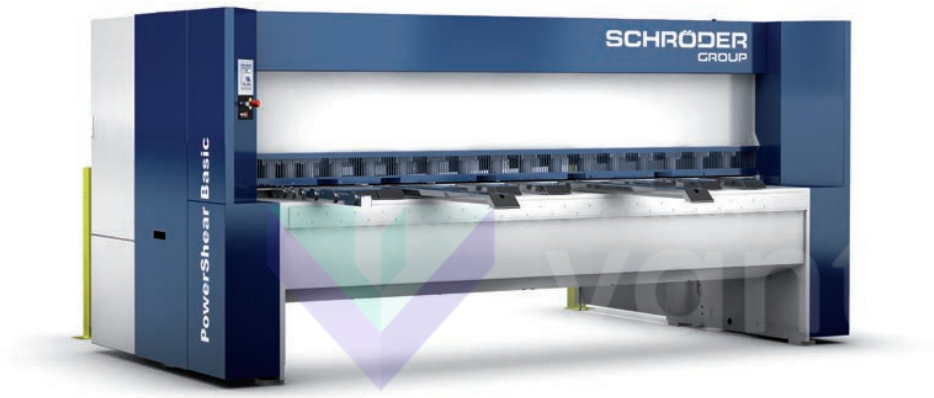
Special equipment PowerShear Universal
8" Touchscreen control on swivel arm
Free passage of metal sheet (swing away back gauge rail) in order to cut sheets with a gauge width >1000 mm
Angle gauge 1000 mm mounted on the left side incl. automatic tipping gauge
Angle gauge 1000 mm mounted on the left side incl. automatic tipping gauge movable (only in connection with table extensions)
2x table extensions 1000 mm incl. ball rollers movable on guide rail
Ball rollers for stainless steel plates
Closed sheet support table with exchangeable stainless steel plates
Closed sheet support table with ball rollers

Technical data	3000 x 6,0	4000 x 6,0
Working length [mm]	3 040	4 040
Sheet thickness 400 N/mm²	6,0	6,0
Sheet thickness 700 N/mm²	4,0	4,0
Shear angle adjustment [°]	0,5 - 1,8	0,5 - 1,8
Machine width [mm]	3090	3090
Machine length [mm]	4000	5000
Machine height [mm]	1850	1850
Weight [kg]	6000	7900
Stroke [pro.min.]	24-61	20-56
Drive power [kW]	12,0	12,0

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

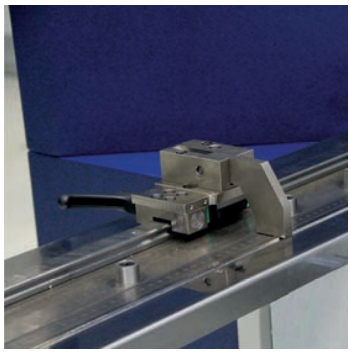
Hydraulic shear
PowerShear Basic

The hydraulic shear PowerShear Basic is the simplified solution for sheet metal working in small and midsize businesses.



The PowerShear Basic offers an excellent foundation for sheet metal working with its standard configuration.

Option: lateral side gauge on linear guide rail incl. automatic tipping gauge



Option: touchscreen control CGS 80 on swivel arm

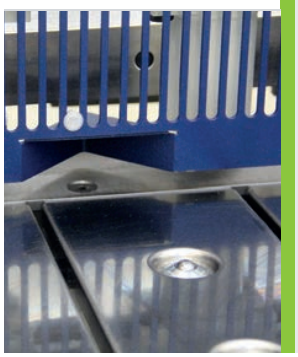
The PowerShear Basic is the simplified version of the PowerShear Professional and Universal.

The PowerShear Basic represents an extremely versatile machine in its standard configuration. Thanks to its energy-efficient drive with a converter-controlled motor and a hydraulic pump, the machine is able to handle the most difficult cutting tasks and materials.

Optionally this machine can also be acquired with an automatic shear angle adjustment which not only enables a much more precise but also a much faster programming of the machine. The extensive standard equipment of the PowerShear Basic is complemented by intelligent options for extensions.

The angle gauge 1000 mm gives neccessary stability and allows for the optimal positioning of the sheet. Optionally the angle gauge can also be acquired with an automatic tipping gauge making it easier to work efficiently.

Exchangeable
stainless steel plates



Finger guard with recessed grips

Standard equipment PowerShear Basic
8" Touchscreen control mounted in protection cover (possiblitiy of saving on CF-Card)
Programming of cutting programs
Energy-efficient drive with converter-controlled motor and hydraulic pump
Automatic calculation of motorized blade gap adjustment (controlled via two motors)
Converter-controlled motorized back gauge 10 - 1000 mm
LED illumination of cutting line
1x angle gauge 1000 mm mounted on the left side
2x table extensions 1000 mm with T-slot and scale
Table with exchangeable stainless steel plates with recessed grips
Material slide to the back
Obligatory CE safety package

Special equipment PowerShear Basic
8" Touchscreen control on swivel arm
Angle gauge 1000 mm mounted on the left side incl. automatic tipping gauge
Automatic shear angle adjustment from 0,5°-1,8° (stroke 24-61 1/min)
Ball rollers for stainless steel plates
Closed sheet support table with exchangeable stainless steel plates

Technical data	3000 × 6,0	4000 × 6,0
Working length [mm]	3 040	4 040
Sheet thickness 400 N/mm²	6,0	6,0
Sheet thickness 700 N/mm²	4,0	4,0
Shear angle adjustment [°]	1,8	1,8
Machine width [mm]	3090	3090
Machine length [mm]	4000	5000
Machine height [mm]	1850	1850
Weight [kg]	5600	7400
Stroke [pro.min.]	24	20
Drive power [kW]	12,0	12,0

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

SCHRÖDER
GROUP

MOTORIZED SHEAR
MHSU

The motorized shear MHSU

The motorized shear MHSU has been designed for processing sheet metal and plastics. This shear enables clear cuttings for your serial production without difficulties.

The MSHU with NC positioning gauge POS 100 and sheet support to the front

Standard: MHSU with rear guarding via 2-beam light barrier incl. side protectio grid

Experience gathered over decades is reflected in the technology and design of the shear, which is capable of cutting almost any metal and non-metal materials. With the aid of new design techniques, we are able to offer a tried and tested product incorporating state-of-the-art technology.

The slideway guided shear MHSU offers you an entry into motorized cutting. This machine is able to cut up to 4 mm thick sheets fast and clearly and is available with a working length up to 3200 mm.

Easy handling

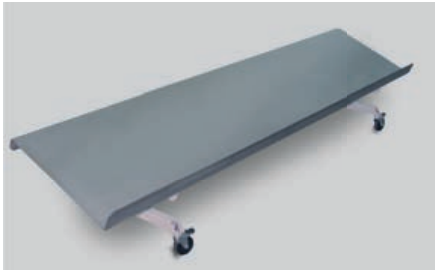
The compact and clearly-arranged machine construction of the MSHU as well as its ergonomic design enable an easy operation without any particular previous knowledge. All controls and displays are arranged for the operator and can be found on the cenral control panel.

Standard equipment

MHSU
Manual back gauge 500 mm
Hold-down device with hard rubber rail to protect polished sheets
Telescopic support table
All-steel blade, double-edged
Adjustable angle gauge left and right with scale
Milled grooves every 10 mm along the table, parallel to the blades
Selector switch for single and continous stroke
Foot switch
Anchor plates incl. dowels

Special equipment

	MHSU
Safety	Obligatory CE safety package rear guarding via 2-beam light barrier incl. side protection grid
Blades	Fine adjustment screws for material with less thickness 0.5 mm
	Blades designed for stainless steel
Others	- LED cutting edge illumination - Pneumatic hold-down device - Stroke counter (with POS 100 incl.) - Extended sheet chute to the front - Sheet chute on wheels, 4 steering castors, 2 lockable (for cuttings up to max. 500 mm, up to max. 200 kg) - Sheet stacking cart (without stacking sheet insets), usable for depositi on to the front, optionally to the back with 4 steering castors, lockable (for cuttings up to max. 750 mm, up to max. 500 kg, only in connection with sheet support) - Set of sheet metal plates for sheet stacking cart - Sheet support see p. 7 under gauges
Gauges	see p. 7
Tables	see p. 7

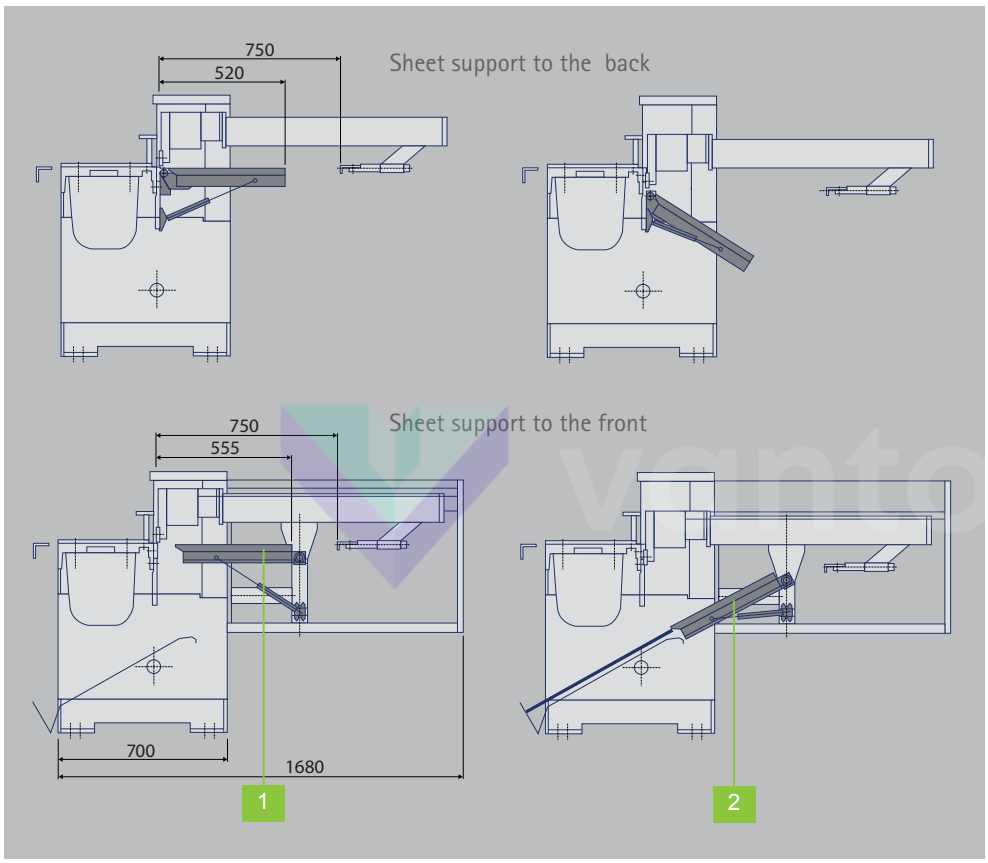


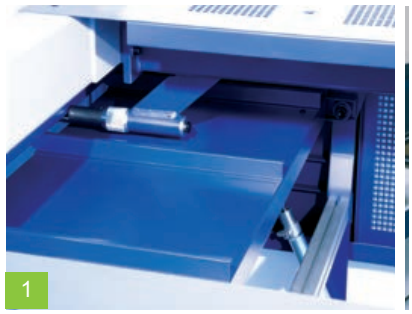
Sheet chute on wheels with 4 steering castors

Sheet stacking cart, usable for deposition to the front, optionally to the back with sheet metal plates

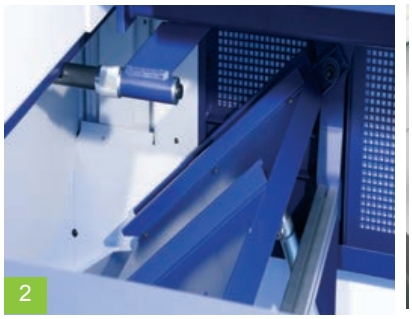
The right options for each task

The Schröder-shear is not just a productivity gain with its standard equipment, but its various options increase your efficiency additonally.





Sheet support to the front in horizontal position



Sheet support to the front in tilted position, pneumatically controlled, incl. sheet chute, gauge width 750 mm or 1000 mm

High rigidity already in its basic configuration

The motorized shear MHSU is based on a torsion-free rigid welded construction and a powerful dynamic low-noise geared motor. The high static and dynamic rigidity are guaranteed thanks to sturdy key components such as cutting beam, sheet support table, lateral frames and main drive units.

The generously designed flat cutting beam guides dispose of robust and wear-resistant special sliding covers. This maintenance free sliding cover ensures optimum guidance and dampening characteristics.

Efficient sheet support

The sheet support holds the sheet upwards and leads the sheet in horizontal position to the gauge. After a successful cut the sheet will be deposited to the back or to the front.

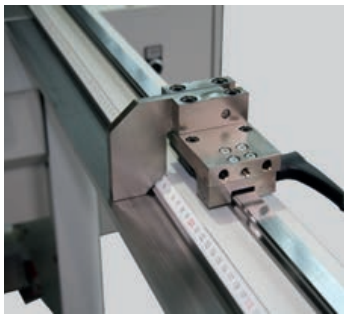
In its standard configuration, the sheet support to the front is provided with an integrated sheet chute. In addition to that you can acquire a sheet chute on wheels or a sheet stacking cart (see pictures p. 3) - the latter one is also available for the sheet support to the back.

Gauge options and further possibilities

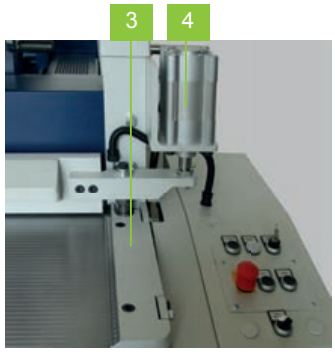
Thanks to the different gauge options multiple sheet formats can be cut by the MHSU which guarantees an optimal processing of your product.

Manual back gauge

Manual back gauge, adjustable from the front, with digital readout

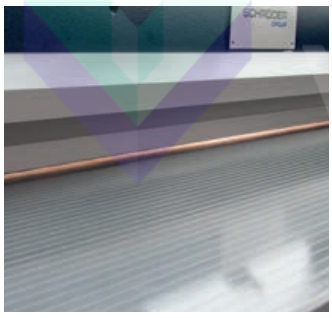


Extended angle gauge on the right with scale incl. lateral flip gauge on linear guide



[3] Adjustable angle gauge
[4] Pneumatic hold-down device

Control panel POS 100 software control



Cutting edge illumination

Optional: Extended angle gauge on the right with electronic length measurement system incl. lateral flip gauge on linear guide

Movable sheet support with T-slots on linear guide

The control panel (left) is directly mounted on the control cabinet and clearly-arranged for all control elements:

- Cut counter (special equipment)
- Indicator lamp
- Selector switch for single and continous stroke
- Lift button
- EMERGENCY STOP button
- START button

Optimized cutting performance through inclined cutting beam

The cutting beam of the MHSU 3200 mm has been constructed and improved with the finite-element-method and thus ensures a precise cut of slim sheets with this working length.

Exact positioning

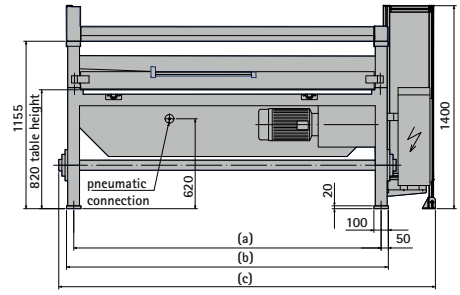
As the only manufacturer we are offering an adjustable angle gauge for our shears. Thus we grant an exactly right-angled positioning of the sheet.

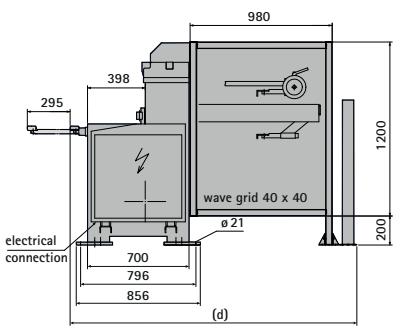
On request this angle gauge can be exchanged quickly. As an extra feature the extended angle gauge is also available with a flip gauge and / or an electronic length measurement system.

Technische Daten

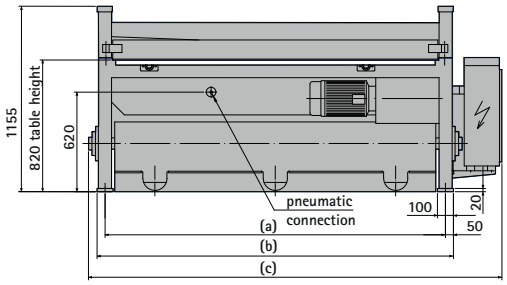
MHSU	1,000	1,250	1,500	2,000	2,500	3,200
Working length	1,030 mm	1,280 mm	1,530 mm	2,030 mm	2,530 mm	3,230 mm
Sheet thickness (400 N/mm²)	2.5/3.5/4.0 mm	3.0 mm	2.0/3.5/4.0 mm	2,5/3,0 mm	2.0/2.5 mm	1.5/2.0 mm
Cutting angle	2.4°	2.0°	2,7°	2.0°	1.7°	1.3°
Number of strokes (per min.)	34					
Driving power	2.5/3.4/3.4 kW	3.4 kW	2,5/3,4/4,0 kW	3.4/4.0 kW	3.4/4.0 kW	3.4/4.0 kW
Weight basic machine (ca.)	720/780/850 kg	790 kg	730/850/940 kg	960/1,290 kg	1,140/1,350 kg	1,460/1,790 kg
Outer dimensions						
(a)	1,120 mm	1,370 mm	1,620 mm	2,120 mm	2,620 mm	3,320 mm
(b)	1,220 mm	1,470 mm	1,720 mm	2,220 mm	2,720 mm	3,420 mm
(c)	1,600 mm	1,850 mm	2,100 mm	2,600 mm	3,100 mm	3,800 mm
Back gauge, manual 500/750/1,000 mm (d)	1,980 mm					
Back gauge, motorized 750 mm (d)	1,980 mm					
Back gauge, motorized, 1,000 mm (d)	2,080 mm					
MHSU with sheet support to the front: Outer dimensions						
(a)	1,120 mm	1,370 mm	1,620 mm	2,120 mm	2,620 mm	3,320 mm
(b)	1,220 mm	1,470 mm	1,720 mm	2,220 mm	2,720 mm	3,420 mm
Back gauge, manual (c)	1,500 mm	1,750 mm	2,000 mm	2,500 mm	3,000 mm	3,700 mm
Back gauge, motorized (c)	1,575 mm	1,825 mm	2,075 mm	2,575 mm	3,075 mm	3,775 mm
Back gauge, manual, sheet support to the front with protection grid 750 mm (d)	1,680 mm					
Back gauge, POS 100, sheet support to the front with protection grid 750 mm (d)	1,800 mm					
Back gauge POS 100, sheet support with protection grid 1,000 mm (d)	2,050 mm					

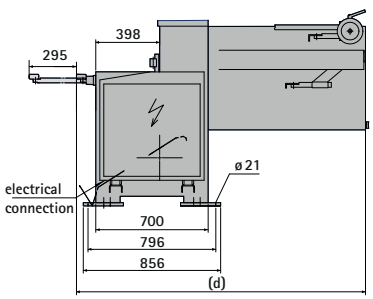
Without sheet support





Sheet support to the front





All dimensions in mm

Gauges and table variants

Special equipment

	MHSU
Gauges	Manual back gauge 750 mm / 1,000 mm
	Manual back gauge 750 mm / 1,000 mm, adjustable from the front, with digital readout
	NC positioning gauge POS 100 with 9-step program 750 mm / 1,000 mm
	Sheet support, pneumatically controlled, to the back
	Sheet support, pneumatically controlled, to the front incl. sheet chute
	Sheet support to the front, with gauge extension up to 1000 mm
Tables	2 sheet support arms with T-slot incl. scale (standard teleskop table is dropped) - 1,000 mm - 1,500 mm - 2,000 mm incl. foot rest
	Extended angle gauge (right or left) with scale - 1,000 mm - 1,500 mm - 2,000 mm incl. foot rest
	Extended angle gauge (right or left) with scale incl. lateral flip gauge on linear guide - 1,000 mm - 1,500 mm - 2,000 mm incl. foot rest
	Extended angle gauge (right or left) with electronic length measurement system, fine adjustment and lateral flip gauge on linear guide - 1,000 mm - 1,500 mm - 2,000 mm incl. foot rest
	Adjustable angle gauge with scale division 0 - 180°
	T-slot in table 400 mm
	Tipping gauge for insertion in T-slot
	Linear guide at the front for movable table support arms (without support arms)
	Moveable support arm for linear guide, at the front, incl. T-slot and scale - 1,000 mm - 1,500 mm - 2,000 mm incl. movable foot rest

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

SCHRÖDER GROUP

MOTORIZED SHEAR

PDC / PDC-NC

PDC – Options for every cutting task

The power-operated shear PDC is a stronger version of the MHSU line and offers a higher performance thanks to its robust design and its belateral „DUO-CUT„-drive.

Motorized shear PDC

Motorized shear PDC -NC

Standard – Type PDC

The power-operated shear PDC has been designed for processing sheet metal and plastics.

It is a stronger version of the MHSU line. The sturdier and stiffened table and frame design as well as the „Duo-Cut" drive with two motors make for a considerably improved cutting capacity while retaining the many functional merits of the MHSU.

With the aid of new design techniques, we are able to offer a tried and tested product incorporating state-of-the-art technology.

Extension – Type PDC-NC

The motorized guillotine type PDC-NC is technically based on the PDC. With an integrated NC positioning gauge and a pneumatically controlled sheet support the PDC-NC offers an extensive standard equipment and an attractive design that all together lead to a significant upgrade compared to the PDC.

What you get here is top technology and top design that fully meet your high demands.

Standard equipment

PDC	PDC-NC
Manual back gauge 750 mm	NC positioning gauge POS 100 with 9-step program, 6 - 750 m
-	Cut counter
Hold-down device with hard rubber rail to protect polished sheets	
Manual blade gap adjustment, two-sided	
Extended angle gauge, right, with T-slot and scale 1,000 mm	
2 sheet support arms with T-slot and scale 1,000 mm (3 support arms with a working length of 4,000 mm)	
Table with exchangeable stainless steel plates with recessed grips	
All-steel blade, double-edged	
Selector switch for single and continuous stroke	
From 2,000 mm bilateral drive	
-	Pneumatically controlled sheet support to the front with sheet separator max. 750 mm, optionally to the back without sheet separator
-	Obligatory CE safety package
Foot switch	
Anchor plates incl. dowels	

Special equipment

	PDC	PDC-NC
Safety	**Obligatory CE safety package for standard machines:** rear guarding via 2-beam light barrier incl. side protection grid (no longer required with ordering sheet support and/or motorized gauge option)	Included in standard equipment
Blades	Blades designed for stainless steel, instead of standard blades	
Others	- Cutting edge illumination LED - Pneumatic hold-down device - Stroke counter (with POS 100 incl.) - Sheet stacking cart, for front or back - Sheet support see p. 7 under gauges	
Gauges	see p. 7	
Tables	see p. 7	

The right accessories for all tasks

The Schröder shear is already a productivity gain in its standard equipment. Thanks to its numerous options this machine can be used for many businesses.

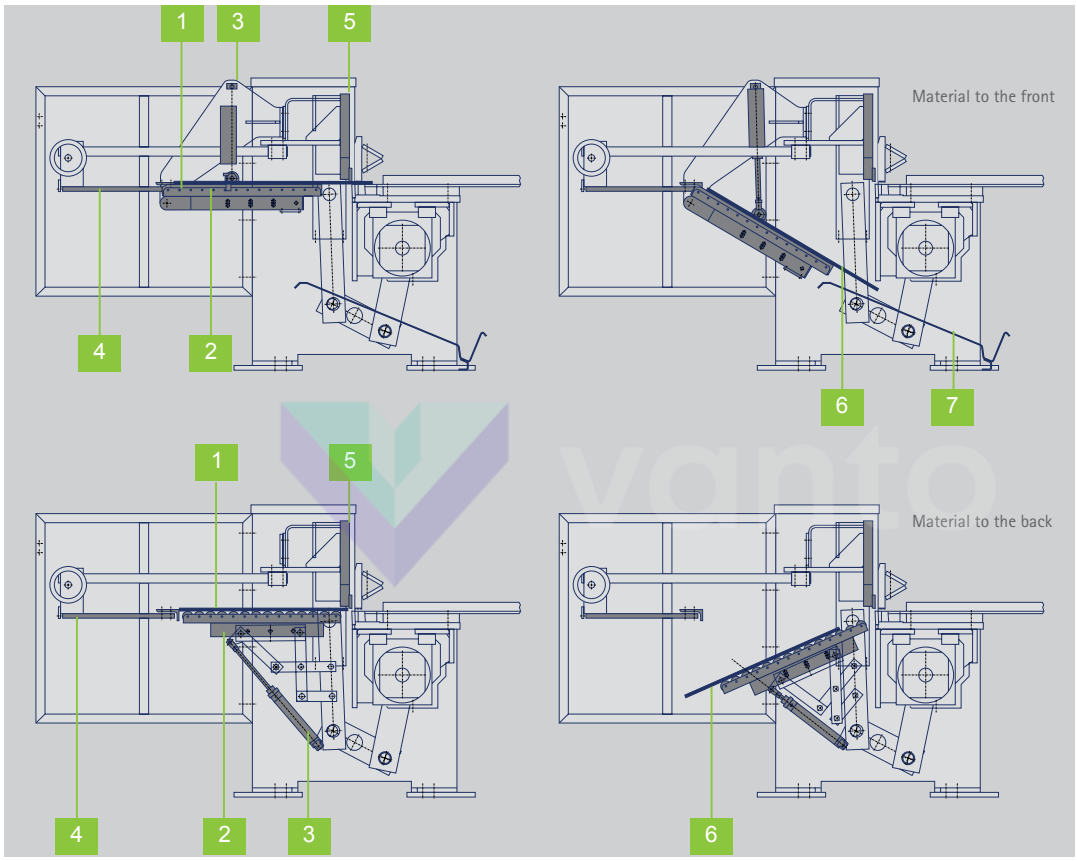


Table with exchangeable stainless steel plates with recessed grips [8] and extended angle gauge on the right with scale incl. lateral flip gauge on linear guide [9]

Technical description of the sheet support system

1 Cutting material
2 Tilting depositing device
3 Cylinder
4 Gauge
5 Cutting beam
6 Blank
7 Sheet separator

High rigidity already in its basic configuration

The motorized shear PDC is based on a torsion-free rigid welded construction and a „Duo-Cut" drive with two powerful dynamic low-noise geared motors. The high static and dynamic rigidity are guaranteed thanks to sturdy key components such as cutting beam, sheet support table, lateral frames and main drive units.

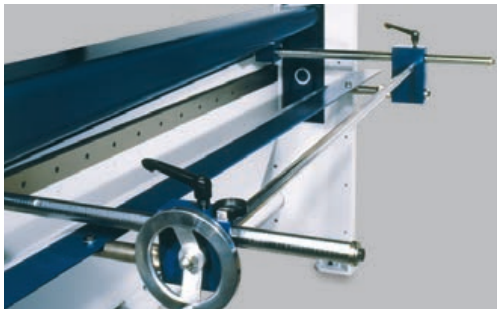
The generously designed flat cutting beam guides dispose of robust and wear-resistant special sliding covers. This maintenance free sliding cover ensures optimum guidance and dampening characteristics.

Gauge options for better handling

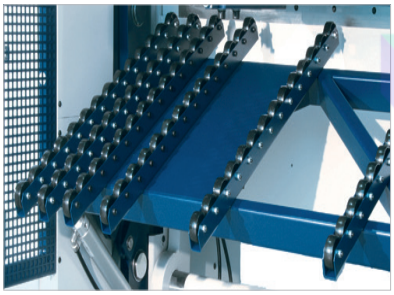
Both the PDC and the PDC-NC are able to process various types of sheets. We supply you with gauge options that are suited to your individual requirements.

Sheet support to the front, pneumatically controlled, incl. sheet shute 750 mm or rather 1,000 mm

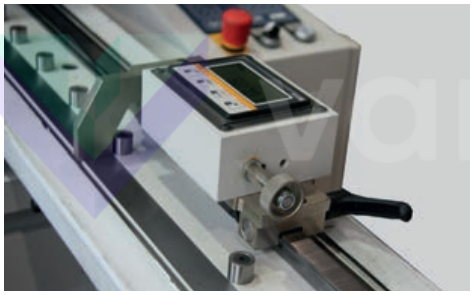
NC positioning gauge POS 100 with 9-step program 750 mm or optionally 1,000 mm



Manual back gauge



Optional: Sheet support to the back, pneumatically controlled, for gauge extension up to 1,000 mm, supporting width 750 mm



Optional for PDC and PDC-NC: Extended angle gauge (right or left) with electronic length measurement system incl. lateral flip gauge on linear guide

Optional: Manual back gauge, adjustable from the front, with digital readout

Efficient sheet support

The sheet support holds the sheet upwards and leads the sheet in horizontal position to the gauge. After a successful cut the sheet will be deposited to the back or to the front.

Software control POS 100

The back gauge is contained in the standard configuration and can be adjusted manually. Its modern, low-friction and almost wear-free crank drive assures high cutting capacities with minimum effort. Optionally, the operator can acquire the software POS 100.

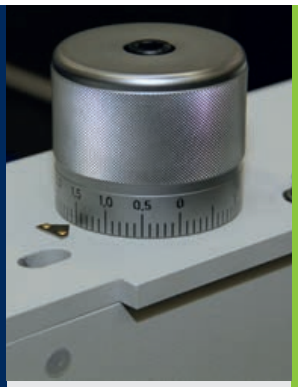
This software enables a motorized adjustment of the back gauge and thus accelerates the operation process. It has a 9-step program that is able to control gauge lengths up to 750 mm or 1,000 mm and significantly facilitates the handling and precsice positioning compared to the manual adjustment.

Exact positioning

In order to be able to position a sheet exactly right-angled, it is recommended to make use of an extended angle gauge. Big sheets can be processed even better and more efficiently.

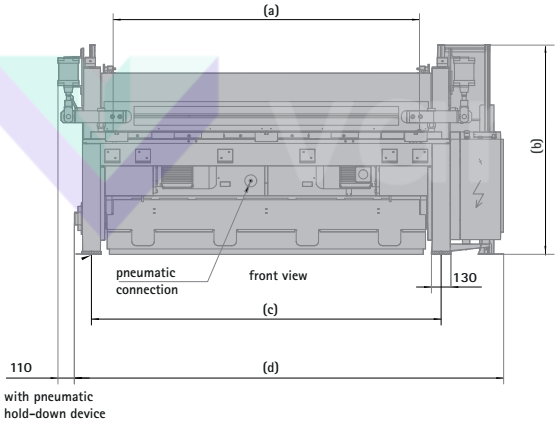
As an extra feature the extended angle gauge is also available with an electronic length measurement system.

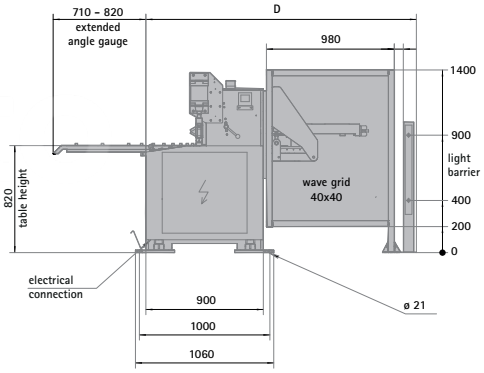
Dimensions and technical data PDC / PDC-NC



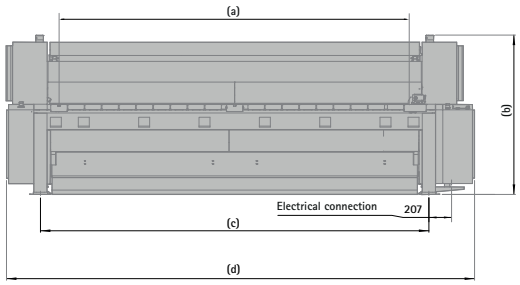
Standard:
Manual blade gap adjustment, two-sided

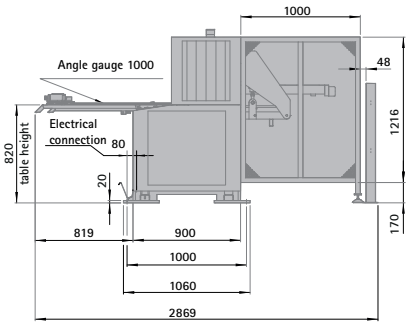
PDC	1,000 x 4.5	1,500 x 4.5	2,000 x 4.0	2,500 x 3.5	3,200 x 3.0	4,000 x 2.5
Working length (a)	1,030 mm	1,530 mm	2,030 mm	2,530 mm	3,230 mm	4,080 mm
Sheet thickness (400 N/mm²)	4.5 mm	4.5 mm	4.0 mm	3.5 mm	3.0 mm	2.5 mm
Cutting angle	3.0°	2.86°	2.5°	2.0°	1.6°	1.3°
Number of strokes (per min.)	34					
Driving power	1 x 5.5 kW	1 x 7.5 kW	2 x 4.0 kW			
Weight (ca.)	2,100 kg	2,450 kg	2,860 kg	3,110 kg	3,560 kg	4,160 kg
Outer dimensions						
Machine height (b)	1,400 mm					
Hole spacing of machine fixings (c)	1,340 mm	1,840 mm	2,340 mm	2,840 mm	3,540 mm	4,390 mm
Maschine length (d)	1,870 mm	2,370 mm	2,870 mm	3,370 mm	4,070 mm	4,920 mm
Back gauge, manual 750 mm D	2,070 mm					
Back gauge, manual 1,000 mm D	2,140 mm					
Back gauge, motorized 750 mm D	2,070 mm					
Back gauge, motorized 1,000 mm D	2,100 mm					





PDC-NC	3,200 x 3.0	4,000 x 2.5
Working length (a)	3,230 mm	4,080 mm
Sheet thickness 400 N/mm²	3.0 mm	2.5 mm
Cutting angle (°)	1.6	1.3
Number of strokes (per min.)	34	
Drive power (kW)	2 x 4.0 kW	
Weight	3,500 kg	3,800 kg
Outer dimensions		
Machine height (b)	1,452 mm	
Hole spacing of machine fixings (c)	3,540 mm	4,390 mm
Machine length (d)	4,270 mm	5,120 mm
Machine width	2,869 mm	2,869 mm





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

Gauges and table variants

Special equipment

	PDC	PDC-NC
Gauges	Manual back gauge 1,000 mm	-
	Manual back gauge 750 mm, adjustable from the front, with digital readout	-
	NC positioning gauge POS 100 with 9-step program 750 mm/1,000 mm	NC positioning gauge POS 100 with 9-step program 1,000 mm
	Sheet support to the front, pneumatically controlled, incl. sheet shute max. 750 mm	Included in standard equipment
	Sheet support to the front, for gauge extension max. 1000 mm	
	Sheet support to the back, pneumatically controlled, for gauge extension max. 1000 mm, incl. supporting width max. 750 mm	
Tables	Sheet support arm with T-slot and scale - 1,500 mm - 2,000 mm incl. foot rest	
	Extended angle gauge (right or left) with T-slot and scale - 1,500 mm - 2,000 mm incl. foot rest	
	Extended angle gauge (right or left) with scale incl. lateral flip gauge on linear guide - 1,000 mm - 1,500 mm - 2,000 mm incl. foot rest	
	Extended angle gauge (right or left) with electronic length measurement system, fine adjustment and lateral flip gauge on linear guide - 1,000 mm - 1,500 mm - 2,000 mm incl. foot rest	
	Adjustable angle gauge with scale division 0 - 180°	
	Tipping gauge for insertion in T-slot	
	Linear guide at the front for movable table support arms (without support arms)	
	Moveable support arm for linear guide, at the front, incl. T-slot and scale - 1,000 mm - 1,500 mm - 2,000 mm incl. movable foot rest	
	Support plates for closed table	
	Closed table, support plates and support arms with ball rollers	

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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