

Folding machine 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.



MAK 4 Evolution UD

Work. length x Sheet thckn. (400 N/mm ²)	3,240 x 6.0 mm	4,040 x 5.0 mm	5,040 x 4.0 mm
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Optional fully-automatic tool changer for clamping beam tools for max. tool height 500 mm

The MAK 4 Evolution UD 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.



Standard equipment	
Software control	<ul style="list-style-type: none"> - POS 3000 3-D graphic control with touchscreen on swivelling arm - Radius function - Remote maintenance
Clamping beam	<ul style="list-style-type: none"> - Clamping beam stroke: 1090 mm - Clamping beam geometry: 180° - Hydraulic tool clamping device (WZS 5000)
Folding beam	<ul style="list-style-type: none"> - Up'n Down folding beam, automatically controlled - Pneumatic tool clamping device (WZS 7000) - Motorized folding beam adjustment: 180 mm - Motorized folding center adjustment: 100 mm - Motorized central crowning device - Center point adjustment, converter-controlled drive
Back gauge	<ul style="list-style-type: none"> - Back gauge table 1700 mm as U-shape, segmented support plates with steel balls - Lateral angle gauge right and left side 1500 mm (outside) - Suction plates in gauge table, controlled via POS 3000 - 2 pneumatic pop-up square arms assembled aisle side, program-controlled - Gauge axis in front
Safety	<ul style="list-style-type: none"> - Protection via light barrier controlled by safety-PLC for operation from the rear - Safety package for operation from the front incl. 2nd foot switch on rail for lateral movement (in combination with tool changer clamping beam no operation from the front possible)
Others	<ul style="list-style-type: none"> - Standard machine without tools - Foot switch - Anchor plates incl. dowels

Special equipment	
Clamping beam	<ul style="list-style-type: none"> - Fully automatic tool changer (WSZ 6000) with a hydraulic tool clamping device (a total of 8 axis) for max. tool height of 500 mm (without toolings), two asynchronously movable tool changers with one gripper unit each <ul style="list-style-type: none"> ▪ incl. safety fence with lateral access door ▪ incl. air conditioner on both switch cabinets ▪ Central lubrication, program-controlled via POS 3000
Folding beam	<ul style="list-style-type: none"> - Additional option, automatic tool changer for folding beam tools with pneumatic tool clamping device WZS 7200 incl. one folding beam tool set
Back gauge	<ul style="list-style-type: none"> - Side table left or right, sheet support table closed with ball rollers (see graphic p.7) - Pneumatically lowerable gauge fingers (2 sectors 850/1700 mm) - Back gauge extension right and/or left with pneumatically lowerable gauge fingers (balls in table), combinable with side table
Safety	<ul style="list-style-type: none"> - Additional equipment for 2-man-operation control in accordance with accident prevention rules required
Others	<ul style="list-style-type: none"> - External programming (PC-Version) - Voltage transformer 52 kVA - Air conditioner on both switch cabinets - Tool options see p. 28-29

Dimensions and technical data



Bottom beam blade with finger grooves



Drives, tools, stops - quality can be seen in every detail.

MAK 4 EVOLUTION UD	3 200 x 6.0	4 000 x 5.0	5 000 x 4.0
Working length (a)	3,240 mm	4,040 mm	5,040 mm
Sheet thickness (400 N/mm ²)	6.0 mm	5.0 mm	4.0 mm
Machine length (b)	6,418 mm	7,218 mm	8,218 mm
Back gauge (c)			
U-3400	5,310 mm	-	-
U-4250	-	6,160 mm	-
U-5100	-	-	7,010 mm
Weight without back gauge	ca. 22,000 kg	ca. 23,500 kg	ca. 26,000 kg
Clamping beam			
Geometry	180°	180°	180°
Stroke	1090 mm		
Drive power	2 x 9.45 kW	2 x 9.45 kW	2 x 9.45 kW
Speed	100 mm/sec	100 mm/sec	100 mm/sec
Folding beam			
Adjustment, motorized	180 mm		
Drive power	2 x 9.4 kW	2 x 9.4 kW	2 x 9.4 kW
Speed	150°/sec	150°/sec	150°/sec
Folding center adjustment	100 mm		



Back gauge system

We supply you with back gauge and table options that fit your requirements. Sheet support tables with balls make handling easy and gentle on the material. The pneumatically lowerable angle gauges on the left and right of the aisle are suitable for folding long, thin sheets at exactly the right angle.



Suction gauge controlled via POS 3000

Suction plates in the back gauge table enable pneumatic fixation of the workpiece. The suction gauge grips where gauge fingers cannot find a reliable hold, because the workpiece has curves or recesses on the gauge side, for example.



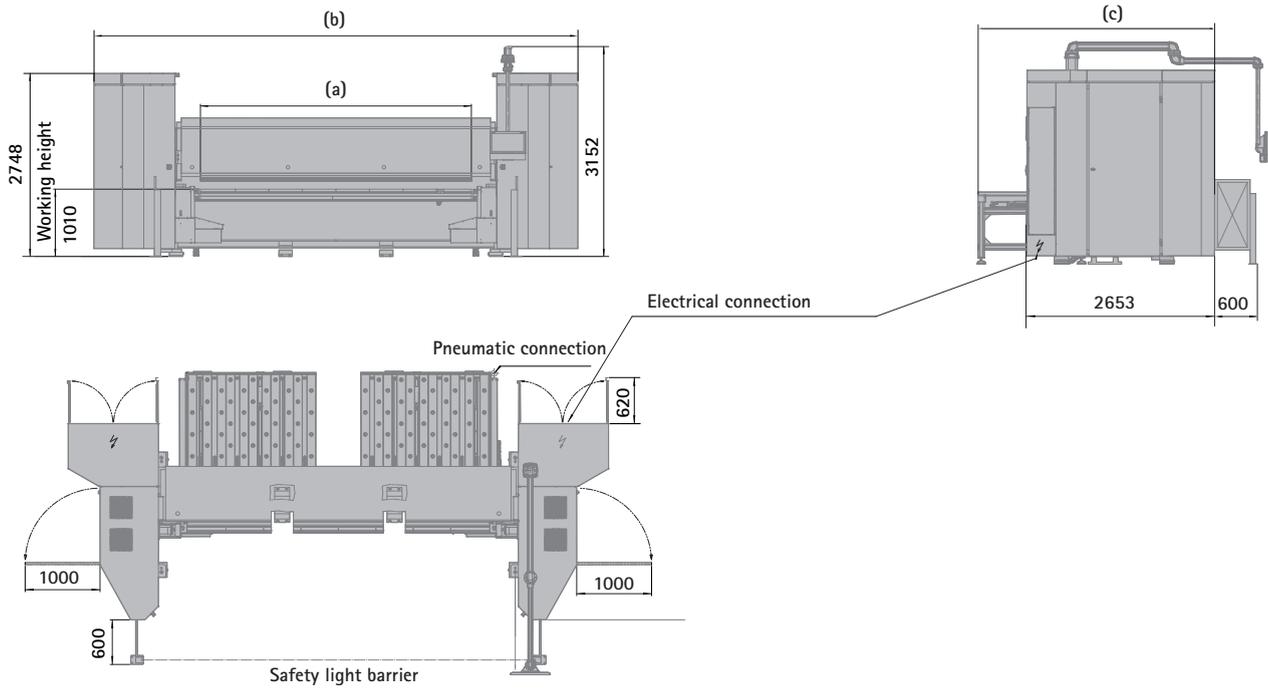
Fast and safe setup with POS 3000

The MAK 4 Evolution UD can be equipped with a fully automatic tool changer. The clamping beam and optionally also the folding beam are equipped with tools in a matter of seconds. Two rotary units, each moved by high-precision linear drives, use a gripper unit to remove tools from the magazine and position them in the tool changer or remove the existing ones.



- 3D graphic control with schematic representation of machine, tool and workpiece
- Intuitive, visual touch-screen programming
- 3D bending simulator for visual program control
- Automatic setup programming and control of the tool changer
- Cycle time calculator
- CAM connection, ERP/PPS interfaces and DXF converter
- Options: PC-Version, Unfold software „SCHRÖDER Unfold“

Dimensions: MAK 4 Evolution UD without tool changer



Dimensions: MAK 4 Evolution UD with tool changer

