

Sheet metal processing center

EML Z-3510 NT
EML Z-3610 NT



Punching technology



Laser technology

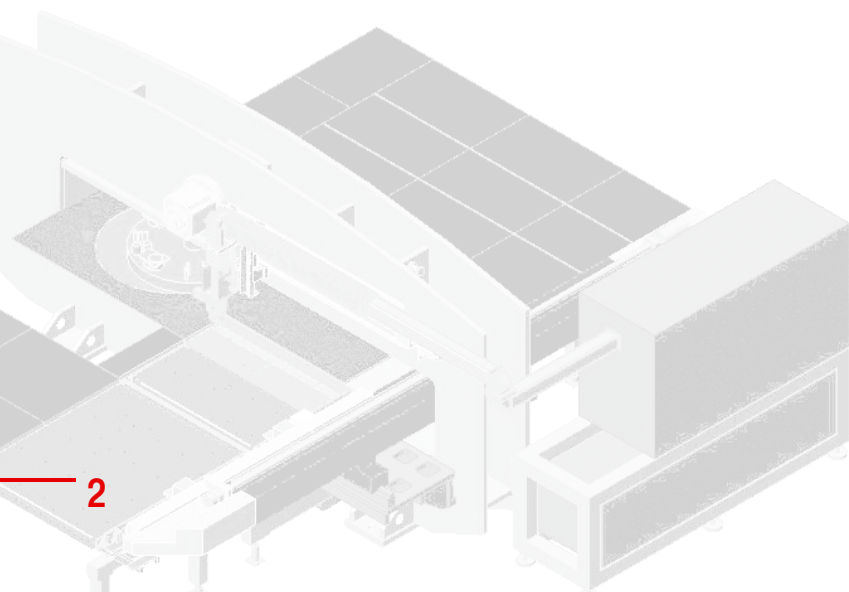


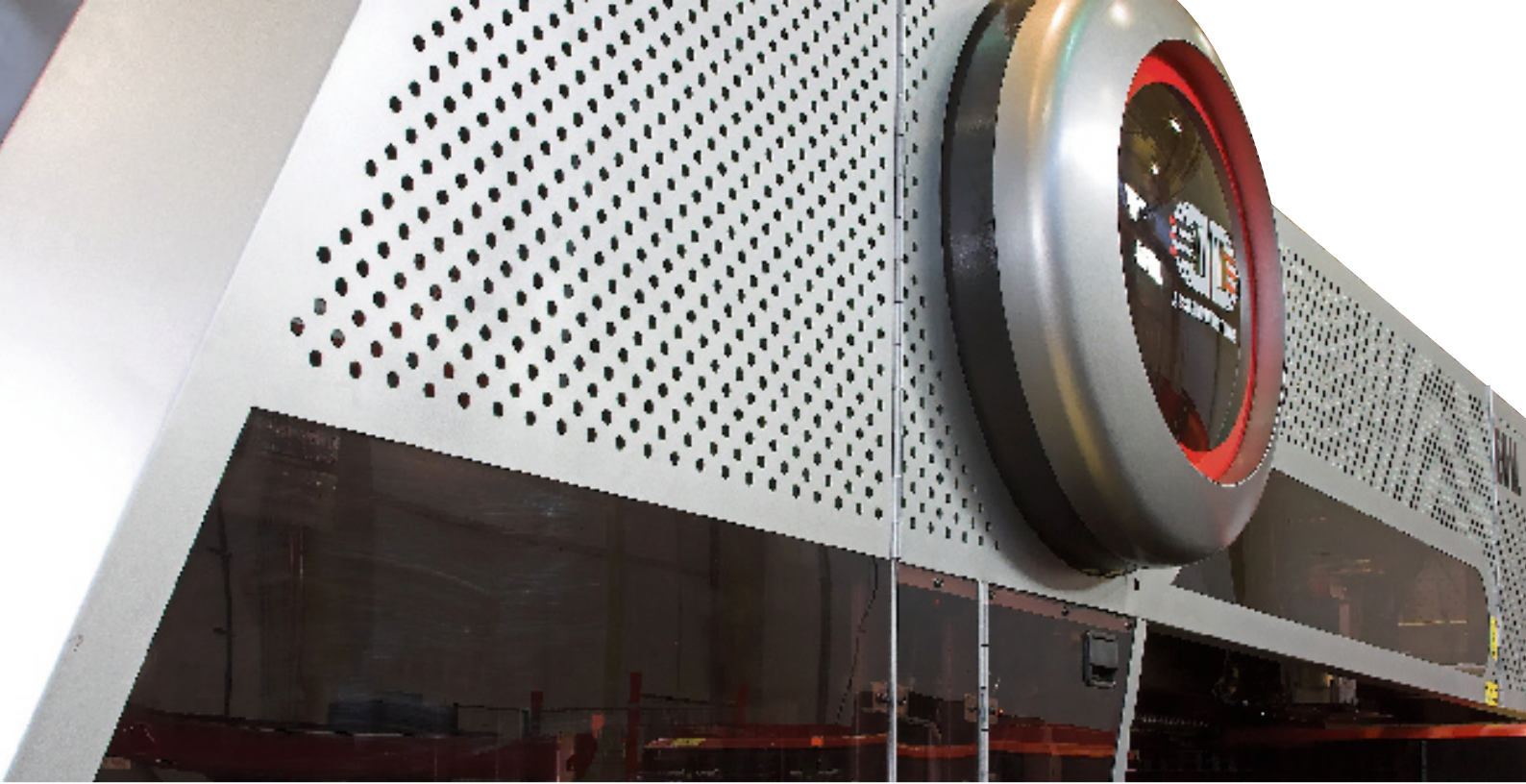
The new sheet metal processing center EML Z – a triad of speed, flexibility and productivity

The decisive answer

The question is this: What is essentially the best thing about the new sheet metal processing center?

Well, it is not the patented servo-electric drive. It is also not the integrated hybrid laser with semi-flying optics, in no way our proven punching technology and also not the automated production processes alone. It is the uniquely successful combination of them all!





In top form for punching and laser cutting

The pooled strengths of the sheet metal processing center are presented in a compact space of 37 square meters, the new design of which stands for high technical demand: for increased speed and better functionality, in order to enable clearly more flexible, safer and above all more productive work with reduced setup times.

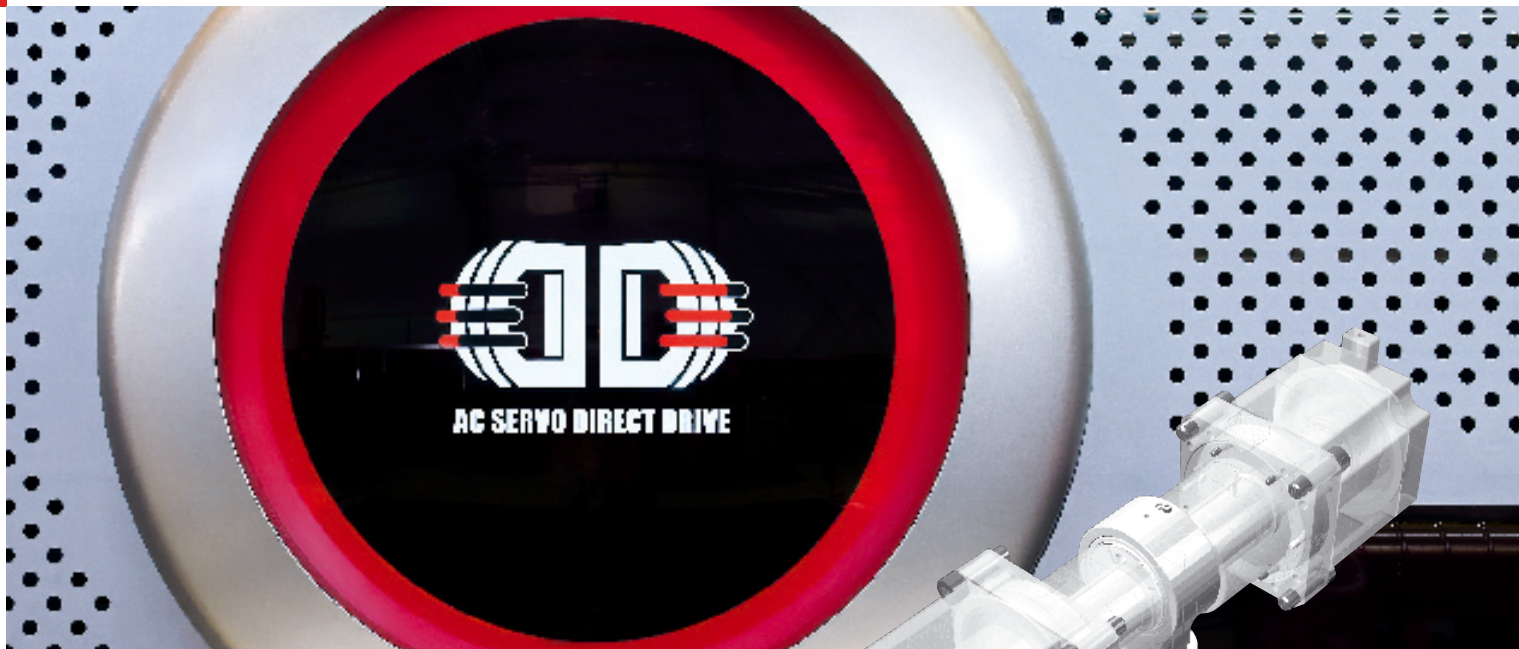
- increased productivity thanks to an innovative machine concept.
- a variety of operations in one pass
- manufacturing with optimized setup times
- higher speed with reduced operating costs



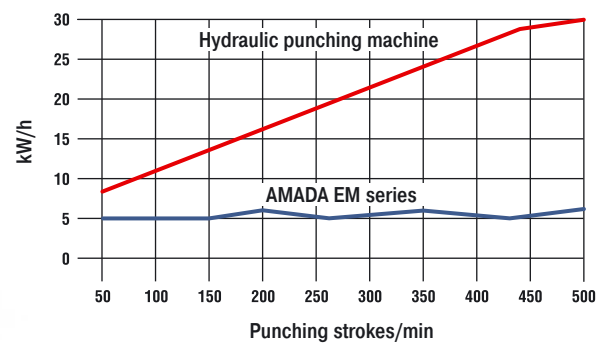
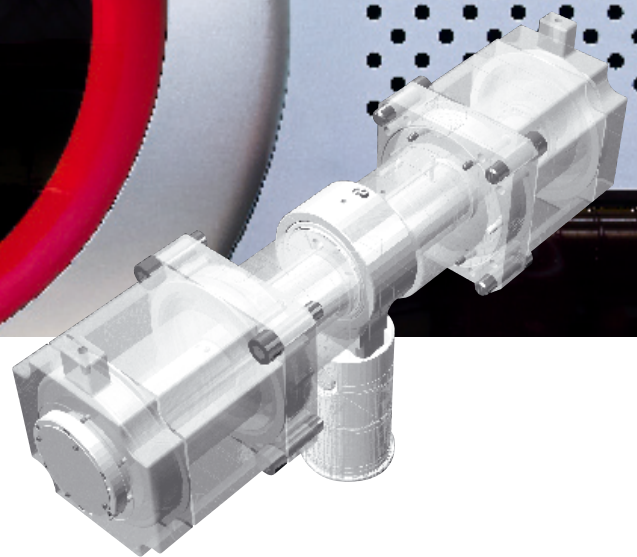
Full of power thanks to energy stores

The heart of the sheet metal processing center EML Z is the trendsetting servo-electric double drive – which is probably the most efficient drive method for high productivity at low operating costs. While the power requirements for hydraulic punching machines with increased stroke frequencies increase in bounds, the EML Z in the punching mode at a punching force of 300 kN barely requires 7 kW at full power (stand-by mode 1 kW) – and remains nearly maintenance and wear free.

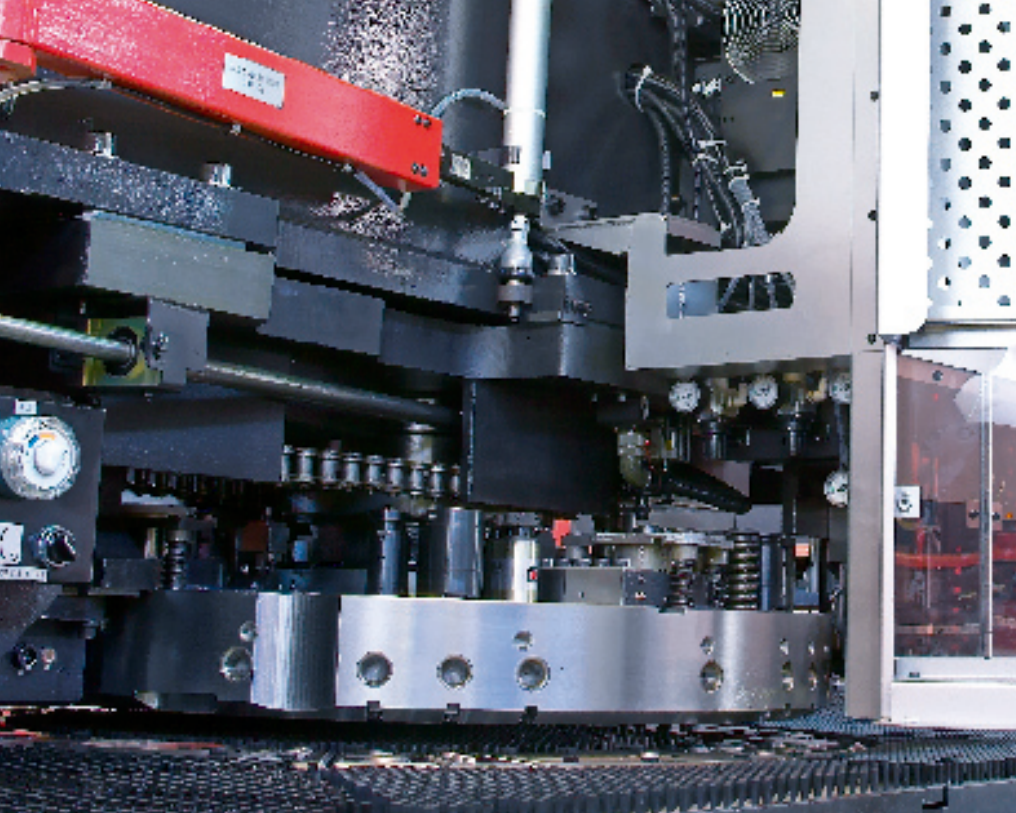
The low power requirements of the punching device result from the energy recovery principle. With every motor braking process, the excessive energy is buffered and reused for renewed acceleration.



- patented servo-electric double drive
- Punching strength 300 kN
- low power consumption of the punching device (maximum 7 kW, 1 kW in stand-by mode)
- smooth-running, quiet, low-wear and nearly maintenance free



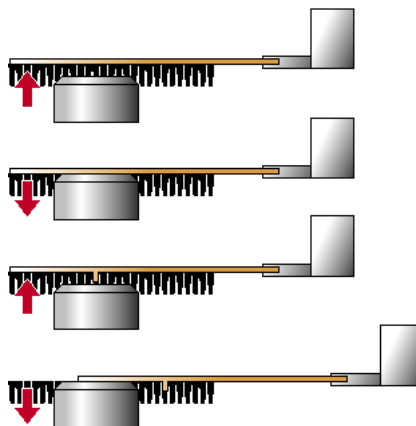
Power requirements in the production process



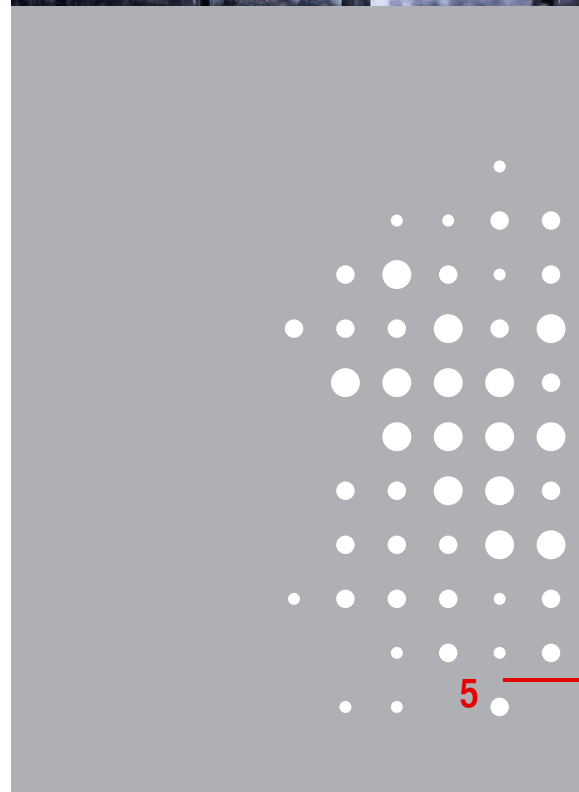
Flexibility can be so fast

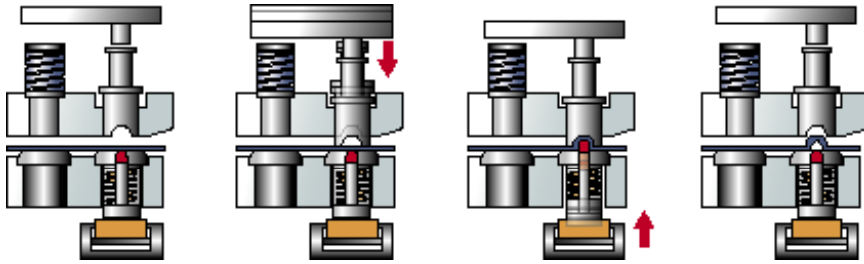
The new Amada sheet metal processing center EML Z stands for the highest flexibility in the processing of up to 6-mm thick sheets in medium and large format. High productivity and optimal sheet utilization are achieved by the step-less adjustment of the clamping claws on the material slide. The EML Z accepts no compromises in its punching operations: With 780 punching strokes per minute, which can even be increased to 1500 in the marking mode, top values are achieved, as also with more than 410 strokes per minute at a hole clearance of 25.4 mm.

Vacuum suctioning in the matrix, known as the air-jet vacuum, prevents the punching slugs from being pulled up even at the highest stroke frequencies. In this way, quality improvement is also achieved along with output maximization. Variable punching requires a variety of tools directly at hand – which the EML Z with 45 stations in the Z-turret easily makes possible. Even larger geometries – at tool diameters of up to 114.3 mm – can be prepared in one stroke.



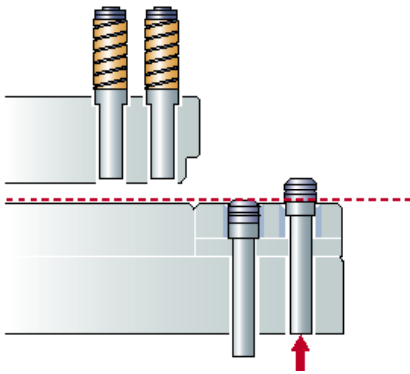
Stroke brush table for low-scratch processing





"Punch & forming" for deformations up to 20 mm in height

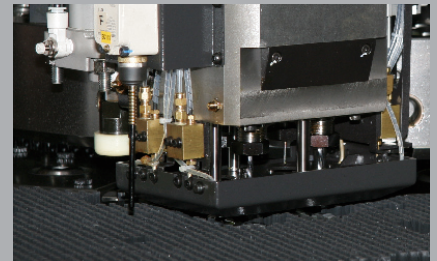
Therefore, tool replacement is essentially no longer needed. If a manual change should nevertheless be needed one day, this can be achieved very quickly and easily on the Z-turret. The new sheet metal processing center is also flexible in a variety of other options: with its integrated manufacturing processes for high-quality shaping (punch & forming), a multiplex threading unit with four inserts of M 2.5 to M 6 as well as a variety of removal concepts for individual parts.



Faster, easier tool replacement in the Z-turret by means of matrix ejector



Z-Turret



Multiplex threading unit

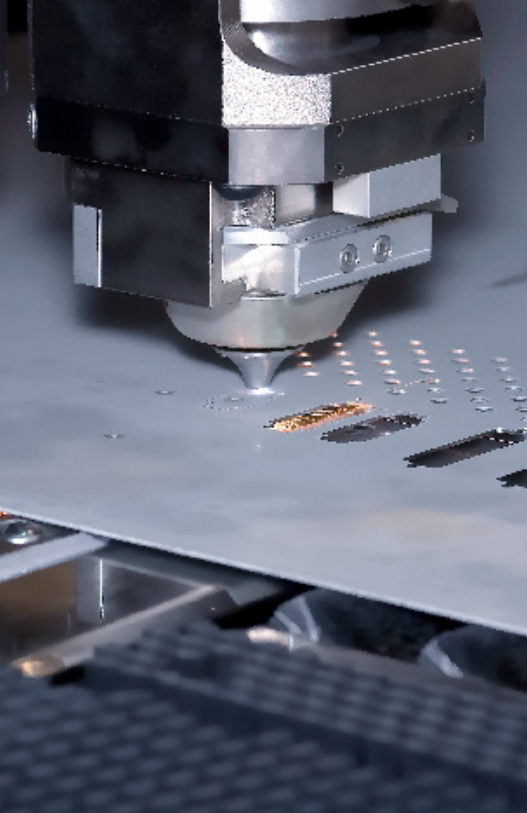
- Work area for medium and large format
- Punching and lasering of up to 6-mm thick sheets
- 780 punching strokes per minute
- optimal sheet utilization
- Tool diameters up to 114.3 mm
- Punch & forming for deformations up to 20 mm in height
- Multiplex threading unit with four inserts of M 2.5 to M 6
- Stroke brush table for low-scratch processing



Parts chute closed



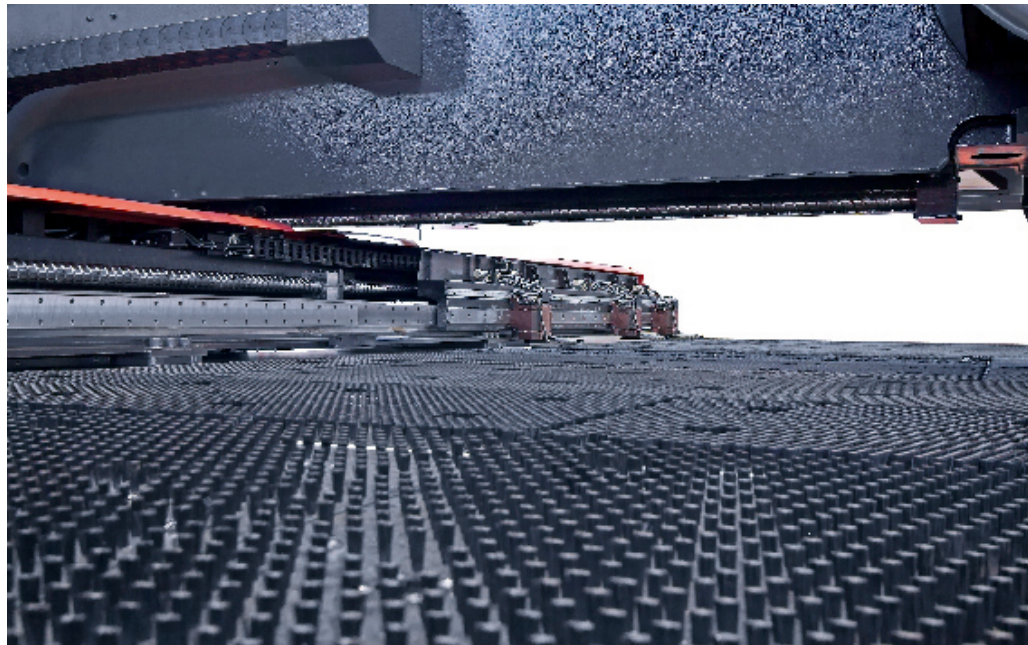
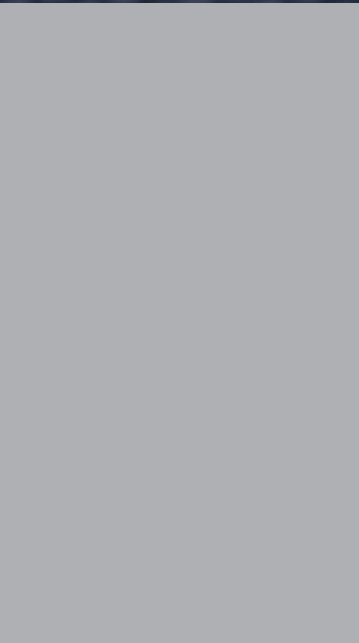
Parts chute open



With practically flying laser for higher speed

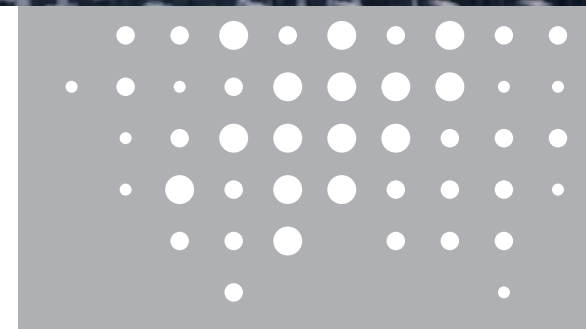
The combined punching and laser technology does not just allow clearly more complex tasks to be managed – it also achieves this in a much shorter time and at notably lower operating costs.

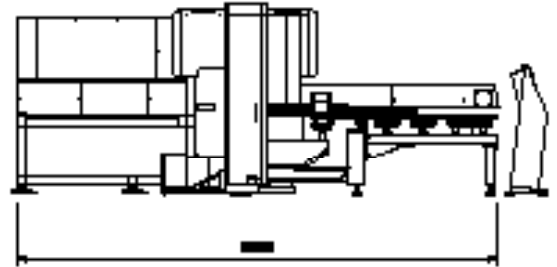
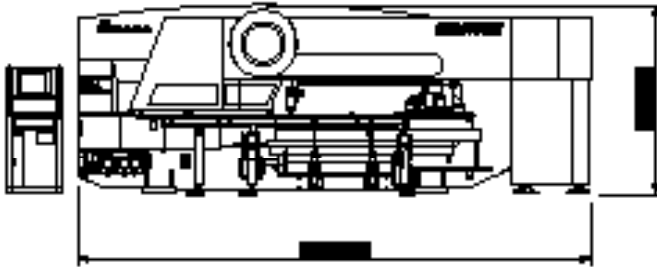
If on occasion a workpiece geometry cannot be punched because the process is too expensive or cannot be easily achieved, then the laser comes into use. And up to now that has not been the case for a combined punching-laser machine: an integrated laser system, which works according to the principle of semi-flying optics. This novelty achieves faster cutting speeds and offers the process-secure usage of a final separation cut as the last operation when part sorting systems are involved.



With optimal laser output of 4 kW, the stainless steel and aluminum sheets can be processed more easily and quickly than before. The cutting optics are protected in a special park position against vibrations during the punching process. Setup times, insofar as they occur at all, are reduced to a minimum by the new fast lens and nozzle replacement system.

- Innovation: Laser with semi-flying optics for higher cutting speeds
- with 4 kW laser output, faster through "thick and thin"
- new sensor cutting head with quick lens and nozzle replacement system





Technical data	EML-Z 3510 NT	EML-Z 3610 NT
Punching force	300 kN	
Machine traverse range		
X/Y punching operation	3050 x 1620 mm	3050 x 1875 mm
X/Y Laser operation	2550 x 1270 mm	2550 x 1525 mm
Combined work area	2500 x 1250 mm	2500 x 1500 mm
Z-axis laser	380 mm	
Max. material strength*	6 mm	
Table loading weight	150 kg / 220 kg	
Traverse speed	X/Y 100/80 m/min	
Laser axis	YL- 80 m/min	
Axis simultaneously	128 m/min	
	Z- 60 m/min	
Position deviation (without readjustment)	+/- 0.1 mm	
Z-Turret mounting	45 Stations (max. Ø 114.3 mm)	
Including rotation stations	4	
Turret rotational speed	30/min ⁻¹	
Number of punching strokes		
5 mm stroke / 1 mm feed	780/min	
5 mm stroke / 25.4 mm feed	410/min	
in marking mode	1500/min	
Table design	Brush table	
Parts chute	400 x 1270 mm	400 x 1525 mm
Machine frame	Bridge frame	
Press drive	Servo-electric double drive	
Turret / table drive	AC-Servo motors	
Machine weight	27,000 kg	30,000 kg

Resonator	
Continuous laser output	cw-4000 Watt
Laser principle	semi-flying optics

Multi Media CNC-control	
Model	AMNC
Storage capacity	Hard drive
Number of controlled axes	7 (X,Y,YL,Z,T,C + Ram)
Data carrier drive	3.5" HD, CD ROM
Interfaces	RS 232C, RJ 45, USB Ethernet

Standard accessories

Parts chute, air jet vacuum, barcode reader, wedge leveling element, sheet metal deformation sensors, "punch and forming" – integrated 4-fold threading unit, stroke-brush table, sensor head with quick-change lens and nozzle system, automatic focus system, automatic gas pressure control, clean cut, alu cut, suctioning, cooler

Special accessories (optional)

scrap and parts conveyers, tool grinding machine, loading and unloading system, {2} Side tables, alignment tools, programming software



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Subject to technical changes – *The work piece precision and the material strength to be processed are, among other things, dependent on the manufacturing conditions, the material, the type of workpiece, its pretreatment, the panel size and the position in the work area.

The specifications of precision are based on VDI/DGQ 3441. Laser class 1 according to DIN EN 60825-1 for operation in accordance with the intended purpose.