



SOLUTION

EM ZR SERIES

PUNCHING SOLUTION
WITH AUTOMATIC TOOL CHANGE



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PUNCHING SOLUTION WITH AUTOMATIC TOOL CHANGE

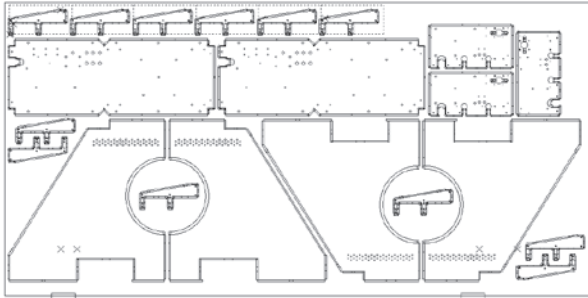
AC SERVO DIRECT TWIN DRIVE AND ZR TURRET

THE FUSION OF AMADA'S ORIGINAL TECHNOLOGIES ENABLES HIGH SPEED, HIGH QUALITY AND HIGH PRODUCTIVITY PROCESSING

The EM-ZR series come equipped with AMADA's unparalleled AC servo direct twin drive system and ZR turret, a major innovation for turret punch presses. Parts can be produced not only with high speed but also with no scratching of the underside. When combined with AMADA's ID Tooling system and the elimination of processing limits, the EM-ZR series is perfect for high-mix low volume continuous production.



TYPICAL PROCESSING SAMPLES

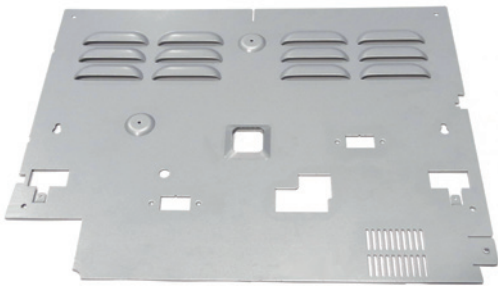
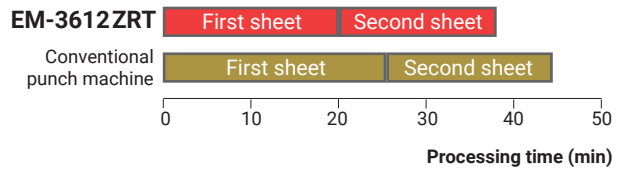


Number of sheets processed: 2
 Number of tools used: 21
 Number of tapping hits: 114

Aluminium 3.0 mm
 2000 x 1000 mm

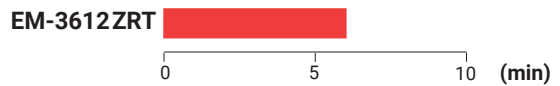
PROCESSING TIME COMPARISON

15% TIME REDUCTION



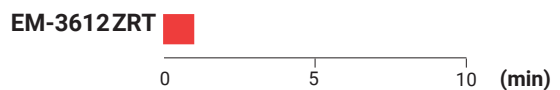
Galvanised steel 1.6 mm
 500 x 400 mm

PROCESSING TIME



Galvanised steel 1.6 mm
 184 x 180 mm

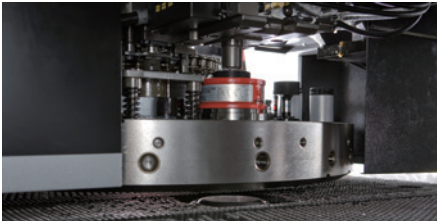
PROCESSING TIME



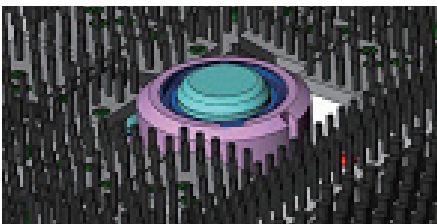
EM ZR SERIES

HIGH QUALITY, HIGH SPEED PROCESSING

HIGH SPEED PROCESSING OF FORMED PARTS WITHOUT SCRATCHING THE UNDERSIDE



Completely flat table



Only the required die lifts through the table



HIGH SPEED PROCESSING WITH A SCRATCH-FREE UNDERSIDE

ZR turret and completely flat brush bed table

AMADA's continuous development of the turret punch press has led to the elimination of marking of the underside of the material by the die. The lower turret of the EM-ZR is completely covered by the brush table. Up/down forming, high extruded forms and scratch free processing are all possible as only the required die is lifted through the brush bed.

EASY PROGRAMMING

Free tool location

The new turret design eliminates the restrictions on tool location. When tools are specified, the optimum tool arrangement is automatically created by reference to their ID. This eases programming and improves material utilization.

AMNC 3i

Numerical Controller

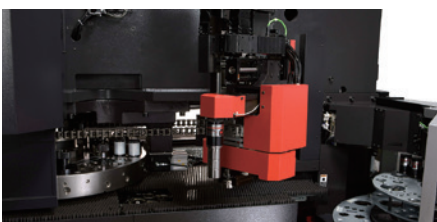
The EM-ZR is equipped with the AMNC 3i NC and a new touch screen interface providing comfortable operation and impressive ergonomics. It enables simple, intuitive ease of use and fits perfectly into the VPSS 3i digital suite concept.

AUTOMATED TOOL SETUP

REDUCTION OF PROGRAMMING AND MACHINE DOWNTIME



TSU



Integrated tool changer

EASY CREATION OF NESTING DATA

High tool storage capacity

A maximum of 300 tools can be loaded in the T type storage system to allow complete flexibility in the creation and nesting of components for production.

REDUCTION OF MACHINE DOWNTIME

Automatic tool changing system (ATC)

In-cycle, automated tool setup significantly reduces the machine downtime. Also, by having 2 different dies associated with a single tool, a wide range of material thicknesses can be processed with the correct die clearance.

STABLE, HIGH QUALITY PROCESSING

DIGITAL QUALITY MANAGEMENT USING THE ID TOOLING SYSTEM



ID tools



Tool condition management

PREVENTION OF TOOL SETUP MISTAKES

ID tools

The tool identification is marked on each individual tool so each one can be digitally managed. When a tool is installed, the machine automatically checks the ID to ensure the correct tool is used.

STABLE, HIGH QUALITY PROCESSING

Tool condition management

The machine control will display which tools require maintenance to provide the optimum performance at all times.

ELIMINATION OF DIE SHIMMING

Automatic die height adjustment

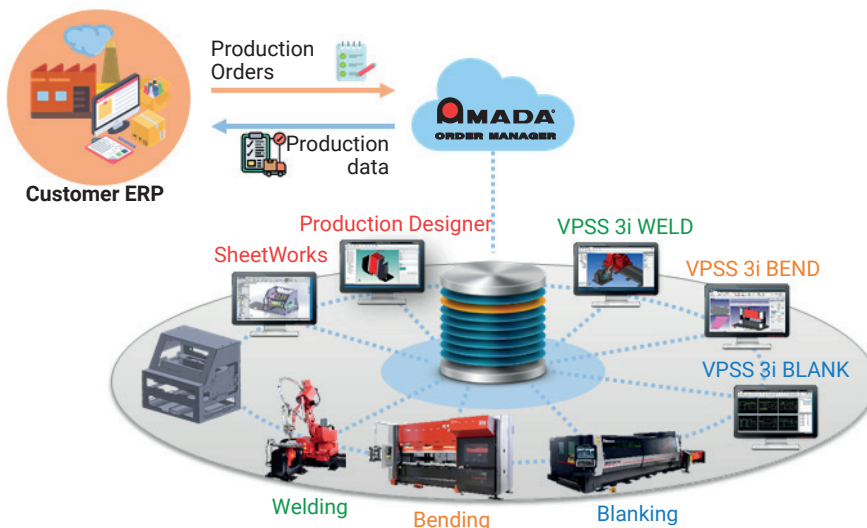
After grinding, the machine will automatically adjust itself when the tool is next used based on the grinding value. Therefore, no setup is required for shimming.

A BRIDGE BETWEEN ERP AND AMADA ECO-SYSTEM

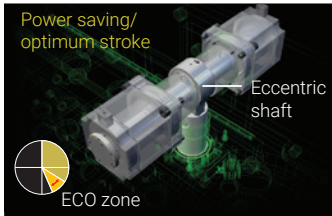
AMADA Order Manager (AOM) is the new Cloud-based platform created by AMADA.

Thanks to the AMADA standard data exchange interface, the customer's existing ERP system can be easily connected to AOM to allow the production data to be sent to the AMADA machines and for collecting the machine production data.

AMADA provides a suite of perfectly integrated software products. Each software technology can take advantage of the VPSS concept (Virtual Prototype Simulation System) to lead to a total, enhanced and error-free production with AMADA machines.

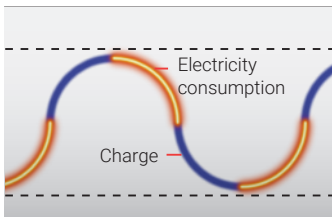


STANDARD EQUIPMENT AND FUNCTIONS



AC servo direct twin drive

The AC servo direct twin drive system has a simple, well balanced structure. Special AC servo motors are directly connected to both ends of an eccentric shaft. With this patented twin drive system, the hit rate and optimum stroke can be achieved for every material thickness.



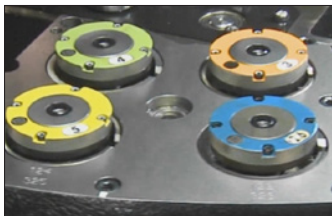
Load levelling, energy saving system

This excellent energy recovery system collects and stores energy generated when the brake is applied to the ram into a capacitor, which is then reused during the next ram acceleration.



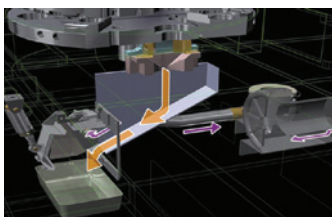
Punching without repositioning

The EM-3612 ZR can process a 3000 x 1500mm sheet without a reposition. This helps to achieve fast and stable production, as well as simplifying the programming task.



MPT tapping tools (tapping stations)

The Multi-Purpose Turret (MPT) installed in the EM-ZR series contains 4 tapping stations, allowing integration of punching and tapping operations traditionally processed separately. Overall processing and programming times are therefore reduced as a result.



New slug suction unit

The EM-ZR series has a brand new slug suction unit design which prevents slug pull through 3 controllable stages at each turret station, depending on the material thickness and tool size.



Tool Setup Station (EM-ZRT)

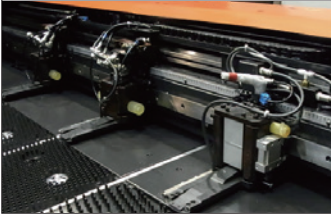
At the set up station, tools can easily be changed in parallel to the process. This drastically increases the machine utilisation. In combination with ID-tooling it makes tool management easier and helps to prevent any set up mistakes.



Buffer turret (EM-ZRB)

With a combined total storage capacity of 65 tools, the buffer turret system allows tooling to be prepared in advance of processing requirements.

OPTIONAL EQUIPMENT AND FUNCTIONS



Stationary clamps + auto adjustment clamps (3 clamp specification)

Clamps can be automatically positioned as programmed to allow for long, continuous, automatic operation.

Clamp 1: L clamp (manual)

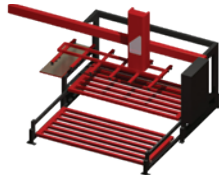
Clamps 2 and 3: Auto adjustment clamps

AUTOMATION OPTIONS

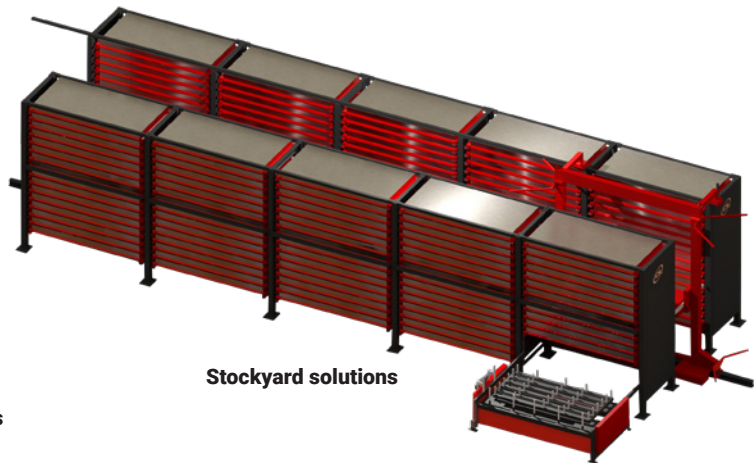
MODULAR AUTOMATION SOLUTIONS FOR LOAD\UNLOAD OPERATIONS



Part removal solutions



Sheet load\unload solutions



Stockyard solutions

LINE UP



EM-ZRB (buffer turret)



EM-ZRT (tool storage unit)

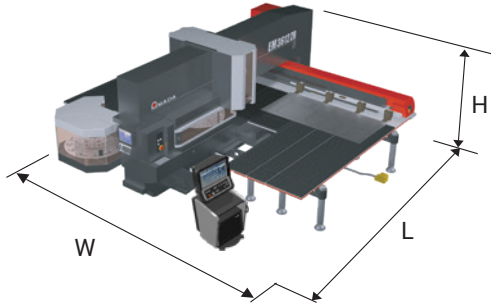
DIMENSIONS

EM-3510ZRB

(L) 6157 x (W) 5120 x (H) 2367

EM-3612ZRB

(L) 6582 x (W) 6220 x (H) 2367

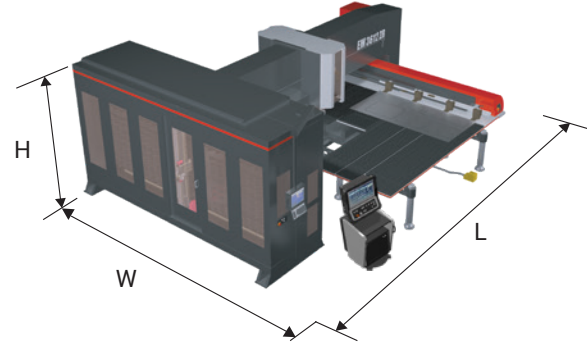


EM-3510ZRT

(L) 7005 x (W) 5120 x (H) 2666

EM-3612ZRT

(L) 7415 x (W) 6220 x (H) 2666



Unit : mm

MACHINE SPECIFICATIONS

EM-ZR Series			EM-3510 ZRB	EM-3612 ZRB	EM-3510 ZRT	EM-3612 ZRT
Numerical control			AMNC 3i			
Punching force		kN	300			
Drive system			AC servo, direct twin drive			
Turret	Number of stations		32 ZR (4 Auto Index stations)			
Controlled axes			11		17	
Axis travel distance	X x Y	mm	2500 x 1275	3050 x 1525	2500 x 1275	3050 x 1525
Maximum simultaneous feed rate	X/Y	m/min	144	128	144	128
Maximum punching hit rate	5 mm stroke / 25.4 mm pitch 5 mm stroke / 2.0 mm pitch	hpm	500 745			
Maximum marking hit rate	1.4 mm stroke / 0.5 mm pitch	hpm	1800 (X) - 950 (Y)			
Punching accuracy		mm	± 0.1			
Work range without reposition		mm	2500 x 1275	3050 x 1525	2500 x 1275	3050 x 1525
Maximum sheet thickness		mm	4.5			
Maximum material mass		kg	50 (F1) / 150 (F4)			
Machine mass		kg	20000	21500	23500	25000

Specifications, appearance and equipment are subject to change without notice by reason of improvement.



For Your Safe Use

Be sure to read the operator's manual carefully before use.

When using this product, appropriate personal protection equipment must be used.

The official model name of the machines and units described in this catalogue are non-hyphenated like EM3612ZR. Use this registered model names when you contact the authorities for applying for installation, exporting, or financing.

The hyphenated spellings like EM-3612 ZR are used in some portions of the catalogue for sake of readability. This also applies to other machines.

Hazard prevention measures are removed in the photos used in this catalogue.

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