

SOLUTION

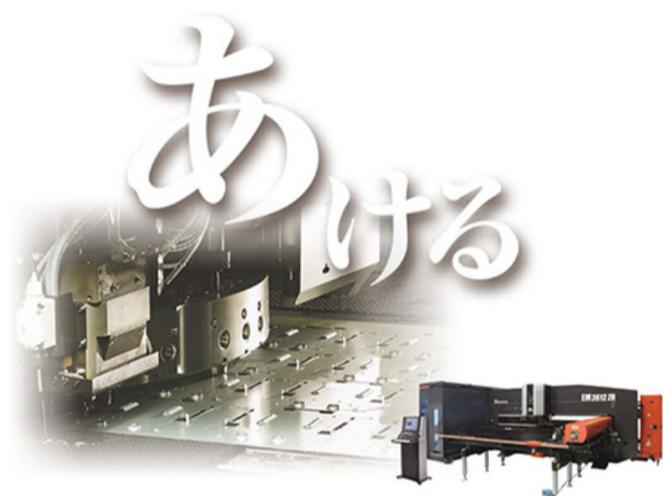
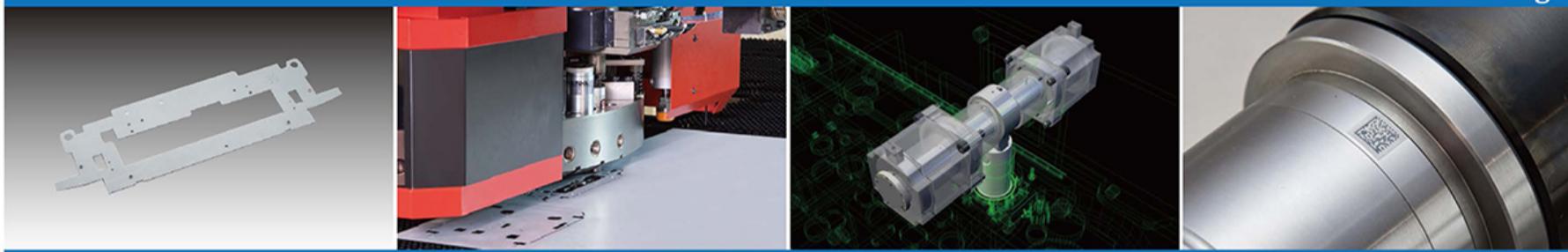


EM MII SERIES

AC servo direct twin drive NCT

EM-2510MII / EM-2612MII / EMZ-3510MII / EMZ-3612MII / EMK-3510MII / EMK-3612MII

Blanking



切る

The Engineering AMADA

成形する



AMADA®

Further evolution of best seller machine

Setup time **reduction** and process **integration**

New technologies are added to the EM-NT series with the world's unparalleled AC servo direct twin drive system. The result is faster, more productive, and higher-grade sheet metal fabrication.

An ID tool system and an MPT tapping unit are installed to drastically reduce the setup time and achieve blanking process integration.



New AC servo direct twin drive NCT

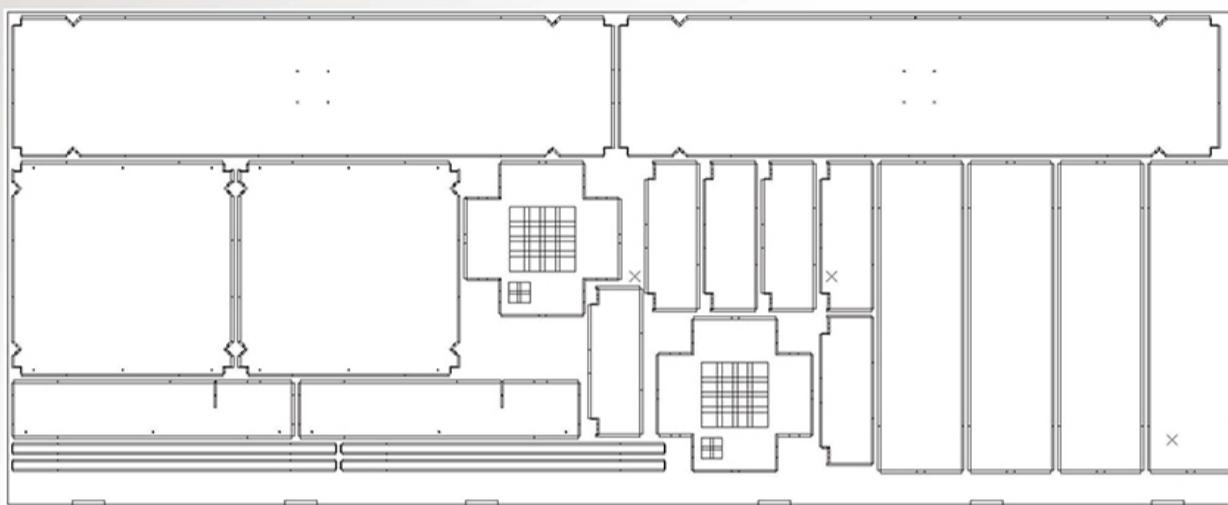
DD mark is on each AC servo direct twin drive machine.

AC servo direct twin drive NCT

EM MII SERIES

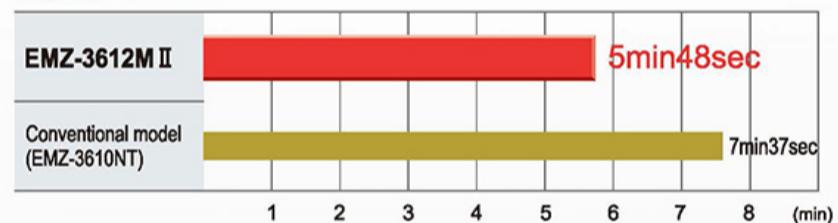
Processing examples of typical workpieces

Processing time comparison per sheet

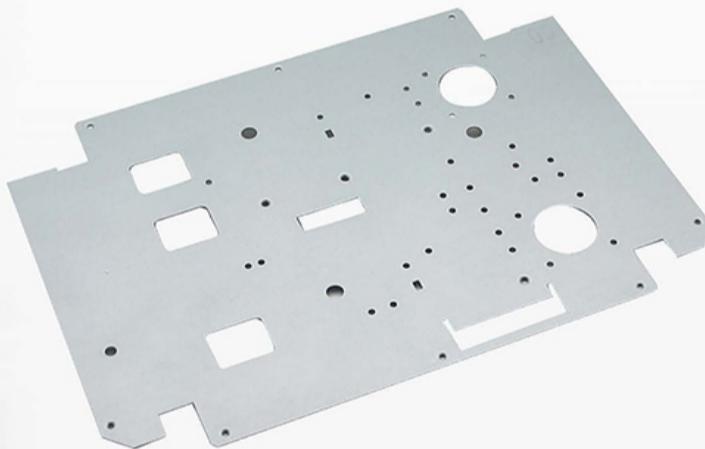


Material	SEC 0.8mm
Size	3050×1219mm
Tools in use	11(Forming,tapping)
Features	Repositioning at conventional model

Processing time comparison
25% reduction



Material:SECC 1.0mm
Size:280×200mm
Tools in use:22(Forming,tapping)
Features:Tapping process integration

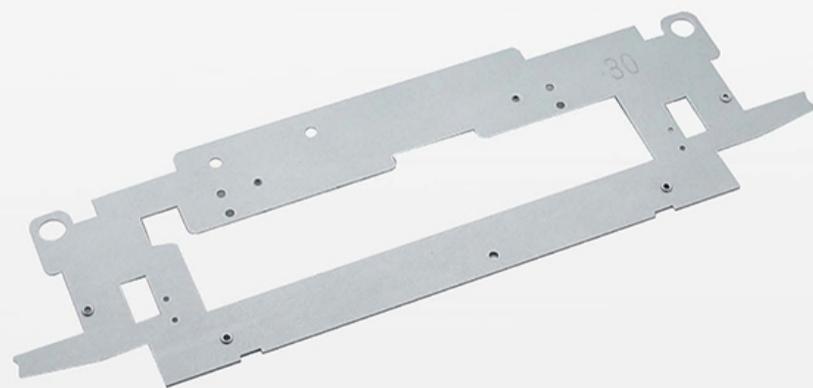


Processing time comparison
30% reduction per part



*Tapping (12 holes)
EM-2510M II : The MPT tapping unit is installed for tapping process integration.
VIPROS-357: Tapping is performed on a drill press.

Material:SECC 1.0mm
Size:330×98mm
Tools in use:18(Forming,tapping)
Features:Tapping process integration



Processing time comparison
34% reduction per part



*Tapping (6 holes)
EM-2510M II : The MPT tapping unit is installed for tapping process integration.
VIPROS-357: Tapping is performed on a drill press.

EM-M II series New technologies

1 Achievement of stable high speed processing

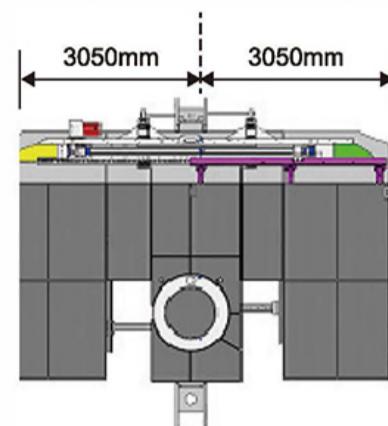
Three features create high speed and stable processing

① Process Range Expansion

Punching of 5' by 10' sheets without repositioning

An X-axis travel distance of 3050 mm (EM-2612M II, EMZ-3612M II and EMK-3612M II) allows 5' by 10' sheets to be punched without repositioning. This helps to achieve fast and stable processing. The complex programming work can be eliminated.

① Punching of 5' by 10' sheets without repositioning

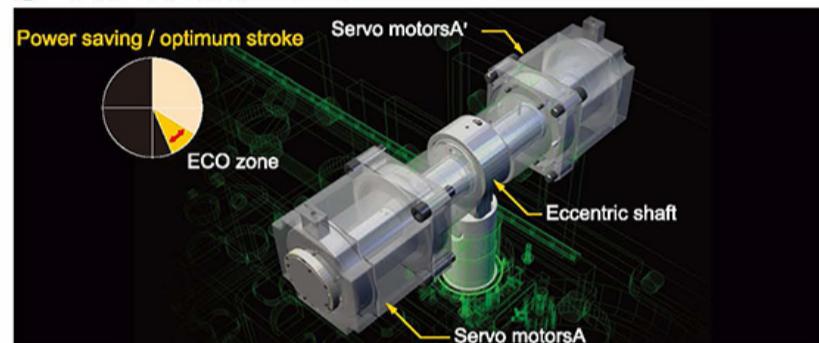


② Simple and effective mechanism

AC servo direct twin drive NCT

The AC Servo Direct Twin Drive has simple and well-balanced structure : special AC servo motors are directly connected to the right and the left ends of the eccentric shaft. With the streamlined operation, the mechanism has realized high hit rate and optimum stroke according to the sheet thickness.

② AC servo direct twin drive NCT



③ Tough and stiff frame structure

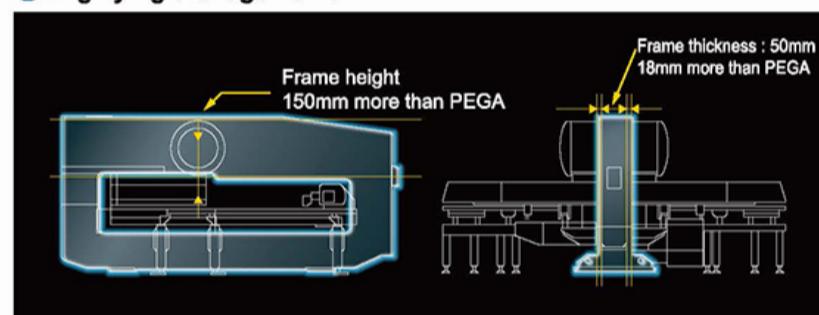
Highly rigid bridge frame

Frame thickness: 50mm (40mm for EM-2510M II)

Frame height: Increased to 150mm

Rigidity is increased by the thickness and height of frame leading to tough and stiff structure.

③ Highly rigid bridge frame



*Machine in photo includes options.

2 Achievement of **high quality** processing constantly

ID tool for digital management in quality

① Prevention of tool installation errors

ID Monitor

ID monitor synchronized with NC shows useful information for tool setup resulting effective work and reduction of setup time.

① ID Monitor



② Tool by digital management

ID tools

Compatibility with the latest tool solution/ ID tool system. Processing quality is consistent by keeping good tool condition through expectation of regrinding time by tool hit record onto ID information.

② ID tools



3 Achievement of **process integration**

Labor and time consuming deburring is automated and speeded up

① High speed and high productivity

Tapping

The tapping unit is installed in the turret. Holes can be punched and tapped in the same area. This means that workpieces can be punched and tapped without repositioning. The processing time and program time can be reduced as a result.

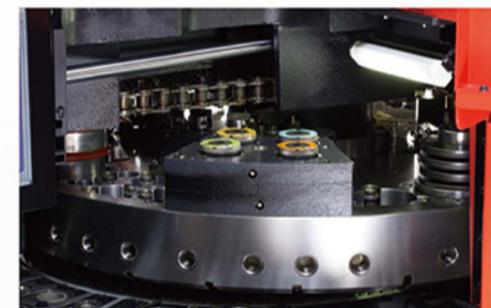
*Tappable hole sizes: M2.5 to M8

*Ready for both cutting and forming taps

① Tapping



MPT tapping tool



MPT tapping unit

② Secondary operations are remarkably being efficient.

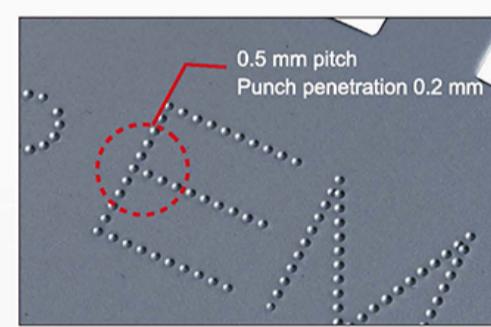
High speed marking

A hit rate of 1800min^{-1} is achieved. Part names, lot numbers, bend lines, weld positions, and similar information are marked to greatly improve the efficiency of secondary operations.

② High speed marking



Marking tool (downward type)



③ Deburring work can be done automatically at high speed.

High speed deburring

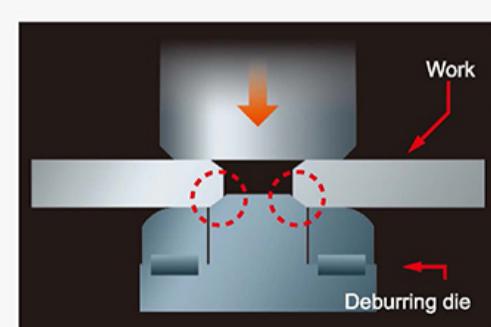
The bottom surface of the workpiece is equally pressed against the chamfered part of die tip to remove the burrs. The deburring tool is to be used after slitting punching.

Reference: Deburring tool size: 6 x 6 mm SQ, 6 x 20 mm RE, $\phi 2$.

③ High speed deburring



Deburring tool (10 x 10 mm SQ)



Other functions and options

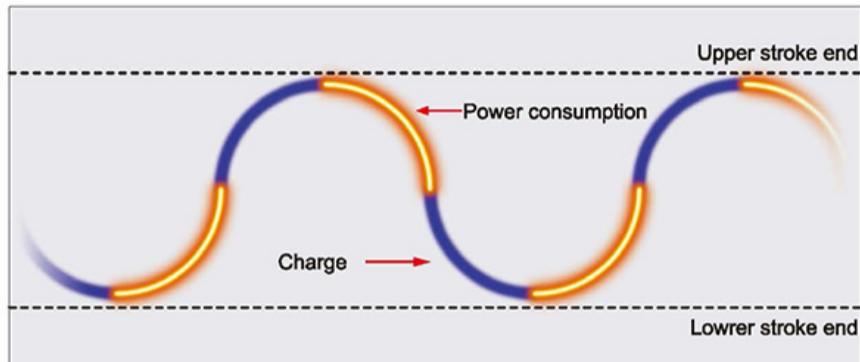
 Option

EM-MII EM-ZR AE LSE

EM-MII LSE

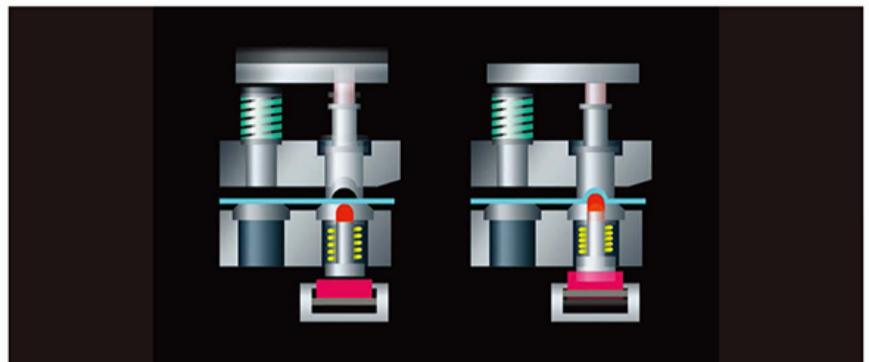
Load-leveling power circuit saves electricity

This is a new mechanism to collect and store in a capacitor the energy generated while brake is applied to the ram and enables reusing the stored energy for accelerating the ram.



P&F mechanism

The forming cylinder, is raised by the amount of the forming die tip to allow the forming operation to be performed at the same pass line as the punching operation. The P&F mechanism thus provides distortion-less large-height forming and reduces bottom scratching and coil breaking.



EM-MII AE LSE

EM-MII

PV (Power vacuum mechanism) PAT.

The downward air jet inside die creates being vacuum and sucks up slug to bottom of die.

The very useful features for slug pull in small stations.

*For King turret and turret with upper and lower disks of same diameter

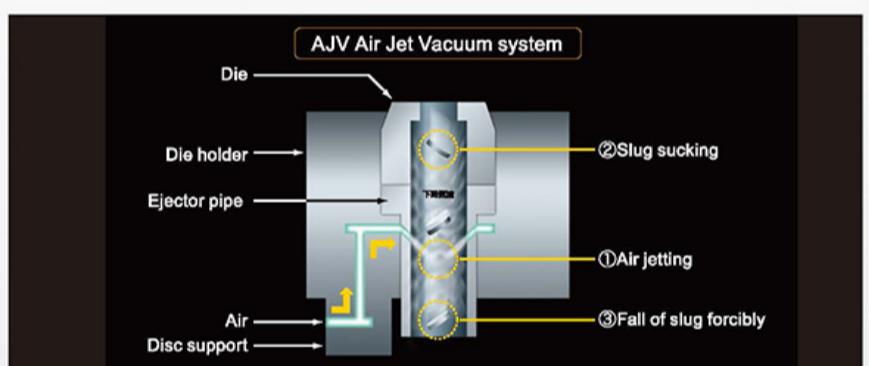


AJV (Air Jet Vacuum system)

The high pressure air to the inside of die creates down current and sucks up for ejecting slug from die.

The slug pull protection results in zero defective and high quality in production.

*For Z turret



Lineup

200 kN press capacity turret punch presses: EM-2510M II and EM-2612M II

300 kN press capacity turret punch presses: EMZ-3510M II, EMZ-3612M II, EMK-3510M II, and EMK-3612M II



EM-2510M II



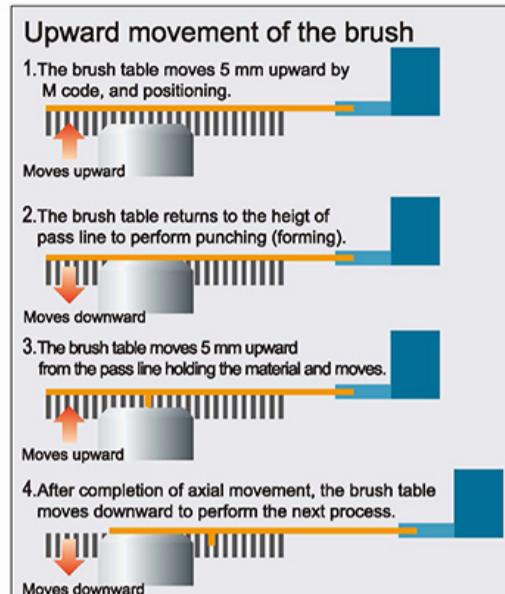
EMZ-3510M II

*Machine in photo includes options.

EM-M II AE LSE

Floating brush table

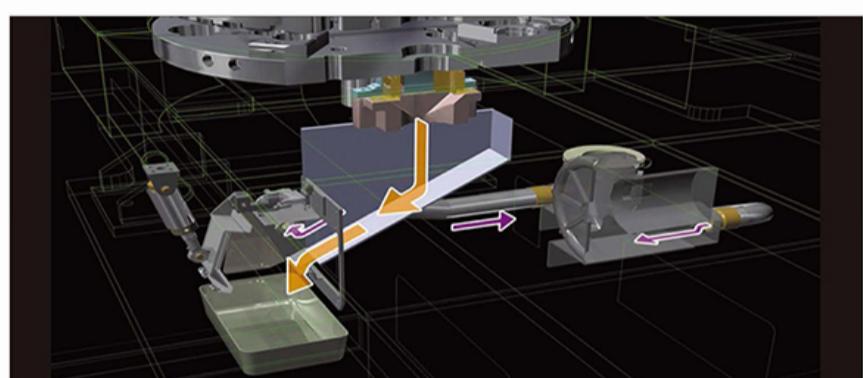
When the material moves after downward forming, the brush table around the turret moves up 5 mm to prevent the material from interfering with the die.



EM-M II EM-ZR LSE

New slug suction unit

The slug is ejected by vacuum from die to scrap bin forcibly and the 3 steps of inverter controlled sucking force prevents slug pull.

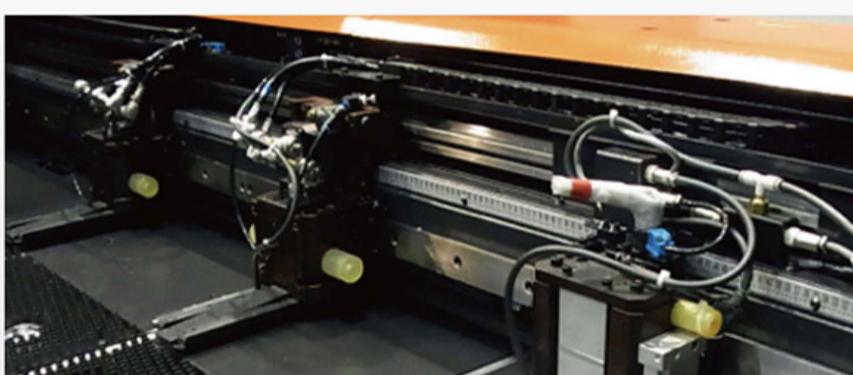


EM-M II EM-ZR

One stationary clamp + One clamp positioner (with two clamps)

For the application of automated long running operation by auto clamp positioning through program.

*EM-2510M II has a clamp positioner (with two clamps) but no stationary clamp.



EM-M II LSE

Z turret (300 kN press capacity turret punch presses)

With the Z turret with upper and lower disks of different diameters, dies can be changed from the top of the lower disk without any implements to reduce the tool setup time.

King turret (300 kN press capacity turret punch presses)

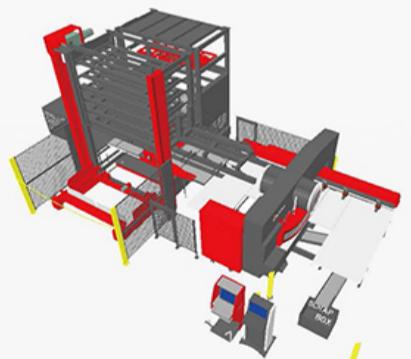
The ϕ 1200 King turret can carry many tools to reduce the number of tools to be set up.



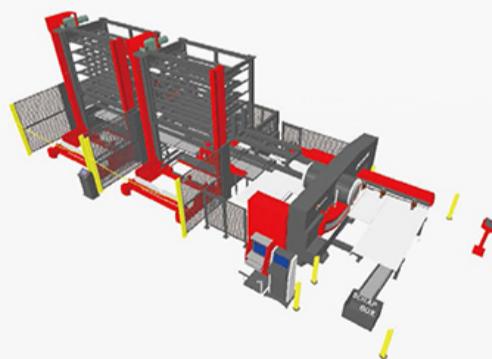
A work light illuminates the inside of the turret during a tool change.

System up

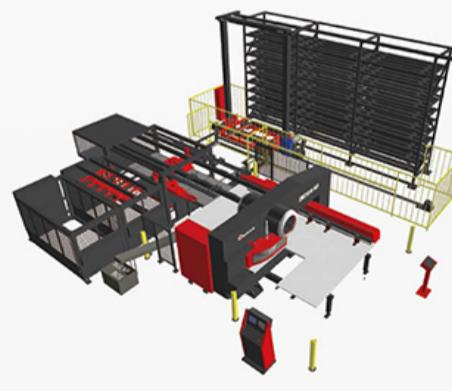
■ EM-M II + Takeout loader + Material / Component tower (6 shelves)



■ EM-M II + Takeout loader + Material (6 shelves) + Component tower (6 shelves)



■ EM-M II + Takeout loader + Material / Component storage

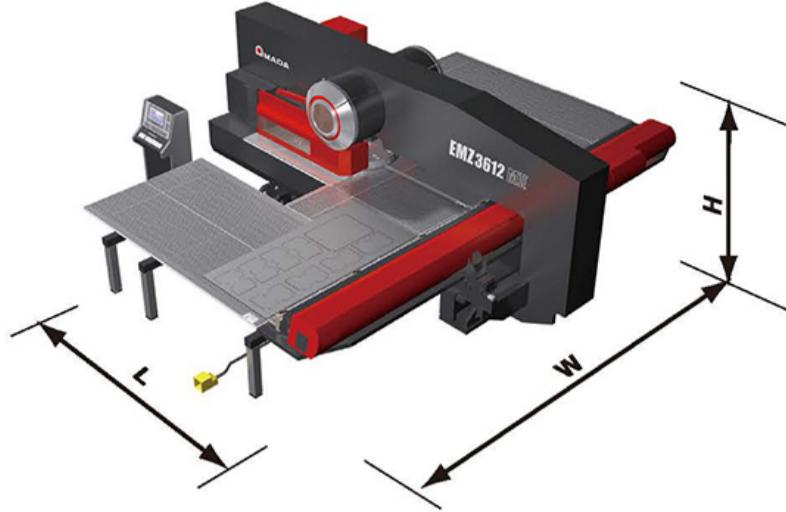


Also available are various other continuous automation options, such as a single-shelf tower (with front or rear manipulator) and a per-sheet loader/unloader. Amada can offer optimum automation solutions to meet the production needs or shop conditions of specific customers.

■Dimensions

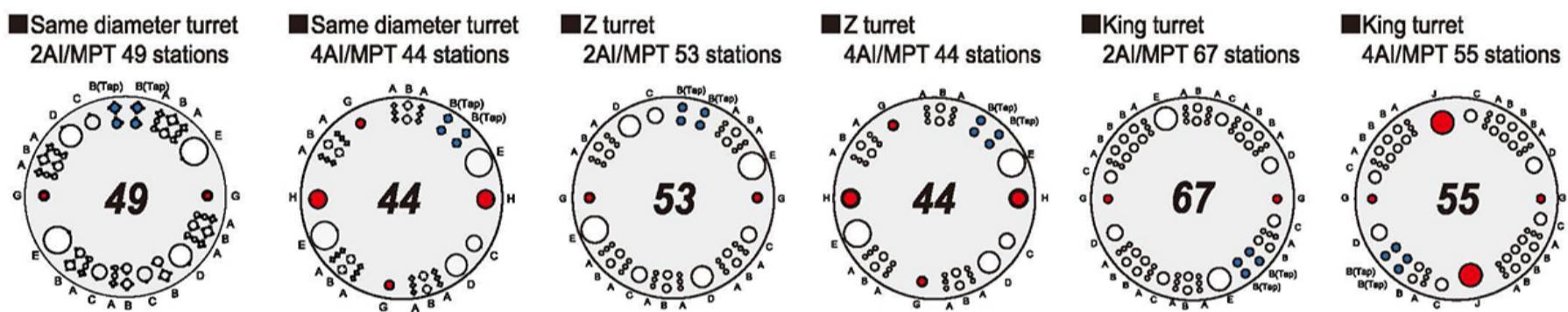
Unit: mm

- EMZ-3612M II, EMK-3612M II
(L : 5442 x W : 6220 x H : 2317)
- EMZ-3510M II, EMK-3510M II
(L : 4997 x W : 5120 x H : 2317)
- EM-2612M II
(L : 5422 x W : 6220 x H : 2317)
- EM-2510M II
(L : 4877 x W : 5120 x H : 2317)



■Machine specifications

Model	EM-2510M II	EM-2612M II	EMZ-3510M II	EMZ-3612M II	EMK-3510M II	EMK-3612M II				
Press capacity kN	200			300						
Drive method	AC servo direct twin drive									
Turret specifications	Turret of upper and lower disks of same 1010 diameter		Z turret (upper and lower disks of different diameters)	King turret						
Number of stations	49 (2AI st., 4MPT tap st.), 58 (2AI st., no MPT tap st.), 44 (4AI st., 4MPT tap st.), 45 (4AI st., no MPT tap st.)		53 (2AI st., 4MPT tap st.), 58 (2AI st., no MPT tap st.), 44 (4AI st., 4MPT tap st.), 45 (4AI st., no MPT tap st.)	67 (2AI st., 4MPT tap st.), 70 (2AI st., no MPT tap st.), 55 (4AI st., 4MPT tap st.), 58 (4AI st., no MPT tap st.)						
Turret rotation speed min ⁻¹	30									
Processing range mm	2500 × 1270	3050 × 1525	2500 × 1270	3050 × 1525	2500 × 1270	3050 × 1525				
Maximum workpiece thickness mm	3.2 (mild steel)									
Maximum workpiece mass kg	50 (F1) / 150 (F4)									
Table feed rate m/min	100 × 80		120 × 80	100 × 80	120 × 80	100 × 80				
Hit rate min ⁻¹	515 (stroke = 5 mm, pitch = 25.4 mm)		530 (stroke = 5 mm, pitch = 25.4 mm)							
Pass line mm	1000 (standalone specification)									
Processing accuracy mm	±0.1 (Manufacturer's standard tolerance)									
Mass of machine kg	17000	19000	18500	20500	19000	21000				



Tooling size	Same diameter turret				Z turret				King turret			
	2 Auto index		4 Auto index		2 Auto index		4 Auto index		2 Auto index		4 Auto index	
	With tapping	without tapping	With tapping	without tapping	With tapping	without tapping	With tapping	without tapping	With tapping	without tapping	With tapping	without tapping
A 1/2"	24	36	24	24	30	36	24	24	33	36	21	24
B 1 1/4"	16 (4MPT)	12	12 (4MPT)	12	14 (4MPT)	12	12 (4MPT)	12	24 (4MPT)	24	24 (4MPT)	24
C 2"	3	4	1	2	3	4	1	2	4	4	4	4
D 3 1/2"	2	2	1	1	2	2	1	1	2	2	2	2
E 4 1/2"	2	2	2	2	2	2	2	2	2	2	—	—
G 1 1/4" (AI)	2	2	2	2	2	2	2	2	2	2	2	2
H 2" (AI)	—	—	2	2	—	—	2	2	—	—	—	—
J 4 1/2" (AI)	—	—	—	—	—	—	—	—	—	—	2	2
Total	49	58	44	45	53	58	44	45	67	70	55	58

1. G,H,J 4Auto Index stations

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.

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

*The official model names of machines and units described in this catalog are non-hyphenated like EM2510M II.

Use these registered model names when you contact the authorities for applying for installation, exporting, or financing.

The hyphenated spellings like EM-2510M II are used in some portions of this catalog for sake of readability. This also applies to other machines.

*The specifications described in this catalog are for the Japanese domestic market.

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Those which are highly improved in productivity and energy saving are stated ECO PRODUCTS by Amada.

E045-HQ04en

Nov. 2019

AMADA head office is certified and registered of ISO14001.