

HIGH-SPEED, SERVO-ELECTRIC TURRET PUNCH PRESS

# EMK M2 Series

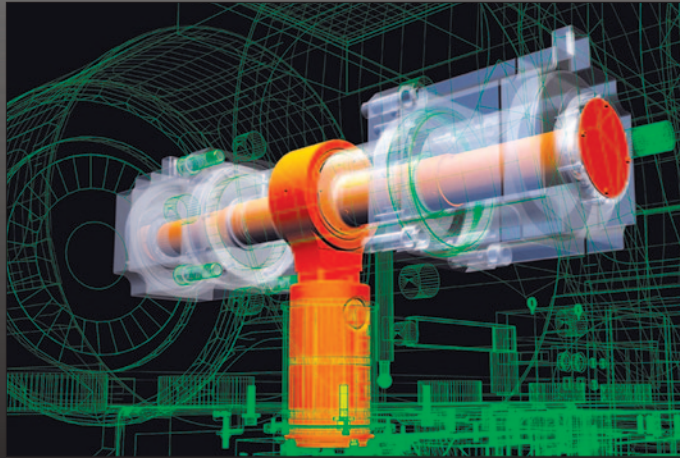
EMK 3510 M2, EMK 3612 M2



# Full-size Sheet Processing. Leading-Edge Technology.

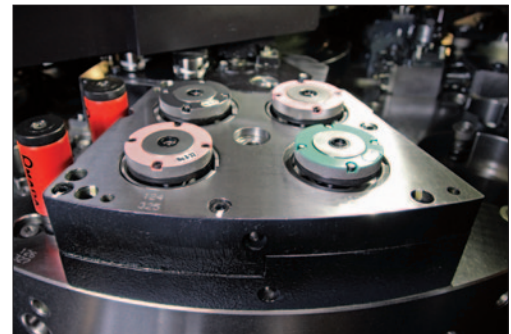
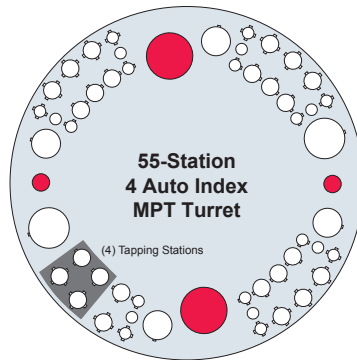
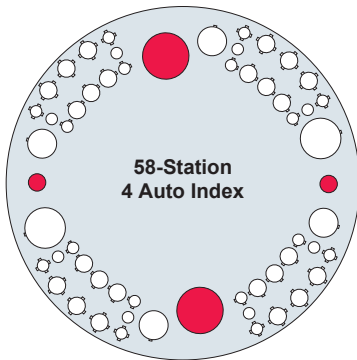
## AC SERVO DRIVEN TECHNOLOGY

The EMK M2 Series turret punch press uses twin AC servo drives directly coupled to the drive shaft. Amada's drive system combines the simplicity of the original clutch and brake technology with the high speeds of the fastest hydraulic ram driven systems. The result is unmatched performance, superior reliability, and lower operating costs.



- Process 10' x 5' sheets without repositioning (EMK 3612 M2 only)
- The highest real-world hit rates and ram positioning accuracy.
- Twin servo drives eliminate the need for complex hydraulics or oil-cooling chillers — dramatically reducing maintenance and repair costs over the life of the machine.
- Precision ram motion control (speed, stroke length, hover height and hold time) helps reduce tooling wear and punching noise.
- Electrical power savings of up to 70% over typical hydraulic machines.

## TURRET CONFIGURATIONS



*Inch and metric tapping stations*

### EMK 3510 M2 / EMK 3612 M2

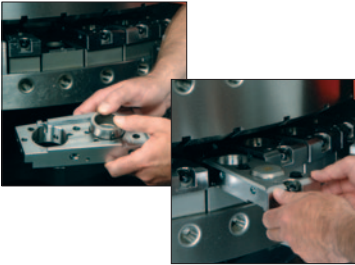
Type	Maximum Size Round	Number of Stations (Keyed)
A	½" (12.7mm)	24 (16)
B	1¼" (31.7mm)	24 (24)
C	2" (50.8mm)	4 (4)
D	3½" (88.9mm)	2 (2)
Auto Index		
B	1¼" (31.7mm)	2 (2)
E	4½" (114.3mm)	2 (2)

Type	Maximum Size Round	Number of Stations (Keyed)
A	½" (12.7mm)	21 (14)
B	1¼" (31.7mm)	24 (24)
C	2" (50.8mm)	4 (4)
D	3½" (88.9mm)	2 (2)
Auto Index		
B	1¼" (31.7mm)	2 (2)
E	4½" (114.3mm)	2 (2)

- The EMK M2 comes standard with either a 58-station or 55-station, triple track, King turret. Both turret configurations include two 4½" and two 1¼" auto-index stations.
- The 55-station Multi-Purpose Turret (MPT) comes with four tapping stations that support inch and metric sizes.
- Laser-hardened turret bores help maintain accurate punch and die alignment.
- The 0.984" feed clearance between the upper and lower turret allows a wider range of forming capabilities.

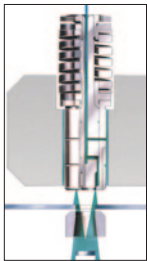
## STANDARD FEATURES

### QUICK AND EASY TOOL CHANGES



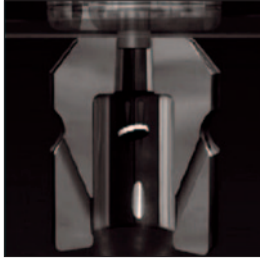
- Punches drop directly into upper turret stations.
- Easy-change die holders reduce setup time by allowing the operator to change up to three dies at once.

### AIR BLOW TOOLING



- Air blow oil mist and lubrication system is integrated with the machine.
- Precise mixture of air and oil is injected into the punch which increases tooling life by up to five times.
- Turret bores also receive adequate lubrication.

### POWER VACUUM DIE



- Used in 1/2" and 1 1/4" stations.
- Eliminates slug pulling.
- Punch penetration can be reduced from 0.098" to 0.039", resulting in greater speeds and less wear.

## AMNC/PC CONTROL (READY TO CONNECT TO vFACTORY®)



Intelligent Turret Setup



G-Code Editor & Simulator

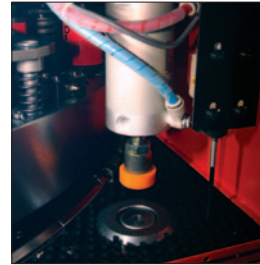


Scheduler



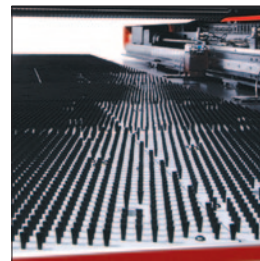
Ram Control &  
Tool Stroke Verification

### PUNCH BREAKAGE DETECTION



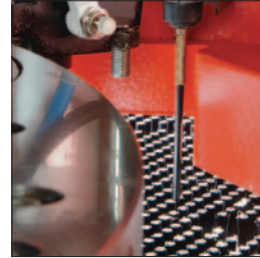
- Reposition cylinder verifies that a hole was punched.
- Cylinder foot lowers, seals the hole and injects air. Air back pressure is measured to determine if a hole exists or not, which may indicate a broken or improperly setup tool.

### LARGE BRUSH TABLE



- Punch full-size sheets without repositioning.
- Scratch-free part processing.
- Reduce secondary operations and environment sound levels.
- Maximum material thickness 0.187" on the EMK 3510/3612 M2

### SHEET JAM PROTECTOR



- Automatically detects raised, bowed, or buckled material if workpiece triggers the detection device.
- Machine automatically stops when triggered.

### Intelligent Turret Setup

- Change material, clamp positions, tool type, tool angle, tool size and tool location.

### G-Code Editor Simulator

- Quickly review, edit and simulate program on the touchscreen display.
- Plot and highlight G-Code patterns.
- Pan and zoom functions.

### Scheduler

- Specify job order and quantities.
- Check part quantities as they are completed.

### Ram Control and Tool Stroke Verification

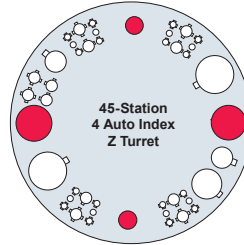
- Control speed, depth, hover height and hold time.
- Utilities to calculate punch and die length parameters.
- Perform trial tool hits.

## OPTIONS

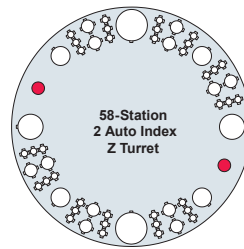
### Z TURRET



- Lower turret disk larger in diameter than the upper turret.
- Loading station allows tools to be changed quickly.
- No special tools required to extract dies.



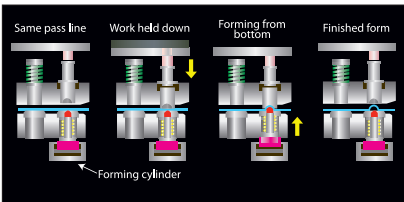
Type	Maximum Size Round	Number of Stations (Keyed)
A	1/2" (12.7mm)	24 (24)
B	1 1/4" (31.7mm)	12 (12)
C	2" (50.8mm)	2 (2)
D	3 1/2" (88.9mm)	1 (1)
E	4 1/2" (114.3mm)	2 (2)
Auto Index		
B	1 1/4" (31.7mm)	2 (2)
C	2" (50.8mm)	2 (2)



Type	Maximum Size Round	Number of Stations (Keyed)
A	1/2" (12.7mm)	36 (16)
B	1 1/4" (31.7mm)	12 (12)
C	2" (50.8mm)	4 (4)
D	3 1/2" (88.9mm)	2 (2)
E	4 1/2" (114.3mm)	2 (2)
Auto Index		
B	1 1/4" (31.7mm)	2 (2)

### PUNCH & FORM

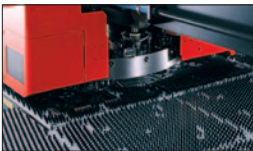
#### EMK 3510 / 3612 M2



- Consistent pass line height
- Fewer scratch marks
- Higher and more accurate forms

### FLOATING BRUSH TABLE

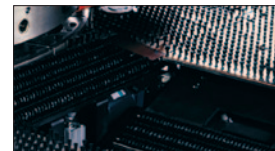
#### EMK 3510 / 3612 M2



- Allows down forming in the turret.
- Form features to a depth of 0.197"
- Raise and lower brushes during sheet movement.

### WORK CHUTE

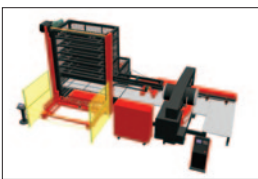
#### EMK 3510 / 3612 M2



- Programmable
- Large, fast acting (4 second cycle).
- 11.8" x 11.8"

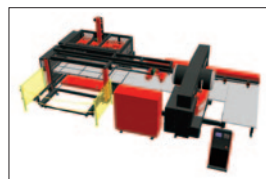
### AUTOMATION

#### EMK 3510 M2 / EMK 3612 M2



#### ASR 510M

Flexibility to produce smaller lot sizes in a variety of material types and thicknesses is provided by the additional shelves of the ASR material tower. The greater material capacity of the tower can extend unattended operation to multiple shifts. The ASR is ideal for lights-out operation in a lean environment.



#### MP/RMP

The MP single-shelf loader automates the handling of small or large sheets and facilitates unmanned operation of the EMK M2. The shelves on the MP can be retracted to allow manual loading of material. The MP is available in 4' x 8' and 5' x 10' models. The RMP is the latest configuration added to the product line.



#### PR/UL

The PR/UL removes, sorts, and stacks parts — eliminating the need for micro-joints. The last hit along the part perimeter frees the part from the skeleton. Vacuum cups remove the part from the machine table and place it in a pre-programmed location on a skid. The skeleton is then removed and placed on a separate skid.

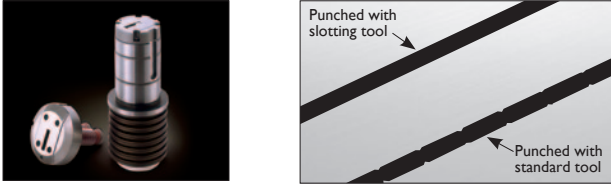


#### ASIII-MP

The ASIII-MP can load a variety of materials and thicknesses via the controller's job scheduler. Up to 9 pallets, each with a weight capacity of 6,600 lbs., can be configured specifically depending on your shop's requirements. The capabilities of the ASIII-MP make it ideal for unattended and lights-out operation.

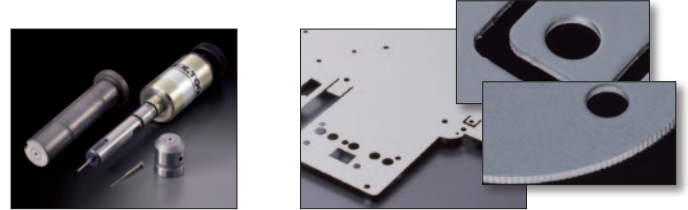
# Productivity-enhancing tooling reduces secondary processing

## SLOTING TOOL



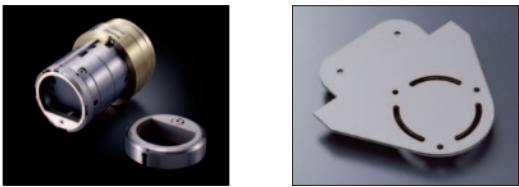
This unique tool allows continuous material parting without the overlap marks associated with conventional parting tools. The Slotting Tool provides outstanding edge quality for cosmetic-sensitive parts and reduces secondary edge clean-up. The 4½" station design is available in the Sheet Saver configuration. With clamp relief on both sides of the punch and die, clamp dead zone is minimized and material utilization is increased.

## CONTOURING TOOL



The contour tool allows nibbling at pitches less than material thickness — resulting in smooth edges that eliminate secondary finishing. Its ability to process almost any geometry reduces the need for special tooling.

## SMALL PARTS REMOVAL TOOL



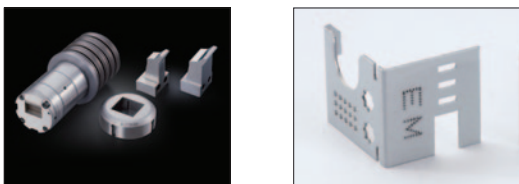
Designed to separate small parts from the worksheet and deposit them through the slug chute, the small parts removal tool eliminates the need for micro-joints and manual part separation after punching.

## DEBURRING TOOL



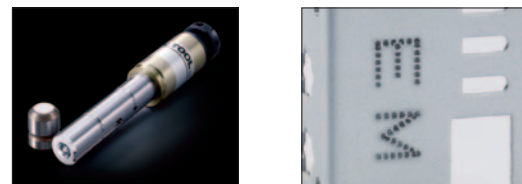
Reduce costly and time-consuming, post-punch deburring by doing the work "in the sheet." Use of the deburring tool ensures that burrs raised during the punching process are flattened — resulting in improved edge quality while streamlining the manufacturing process.

## SAFETY INCH BEND TOOL



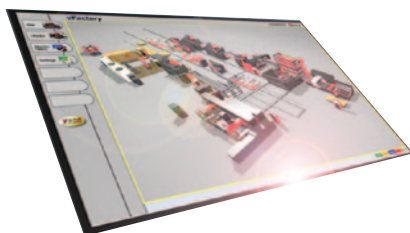
Short flanges can be formed safely where processing on the press brake may not be possible. For a 2" station, minimum flanges of three times material thickness to a maximum of 1.378" can be achieved. This size tool can form a maximum bend length of 1.181" in material ranging from 0.0020" to 0.63" thickness (CRS, aluminum and stainless steel).

## HIGH-SPEED MARKING TOOL



With the EMK M2's ability to mark at up to 1800 hpm, the marking of part numbers, manufacturing dates, bend lines and symbols now becomes practical. Add value to punched parts without adding secondary operations. Tools are available to mark the top or the bottom of the part.

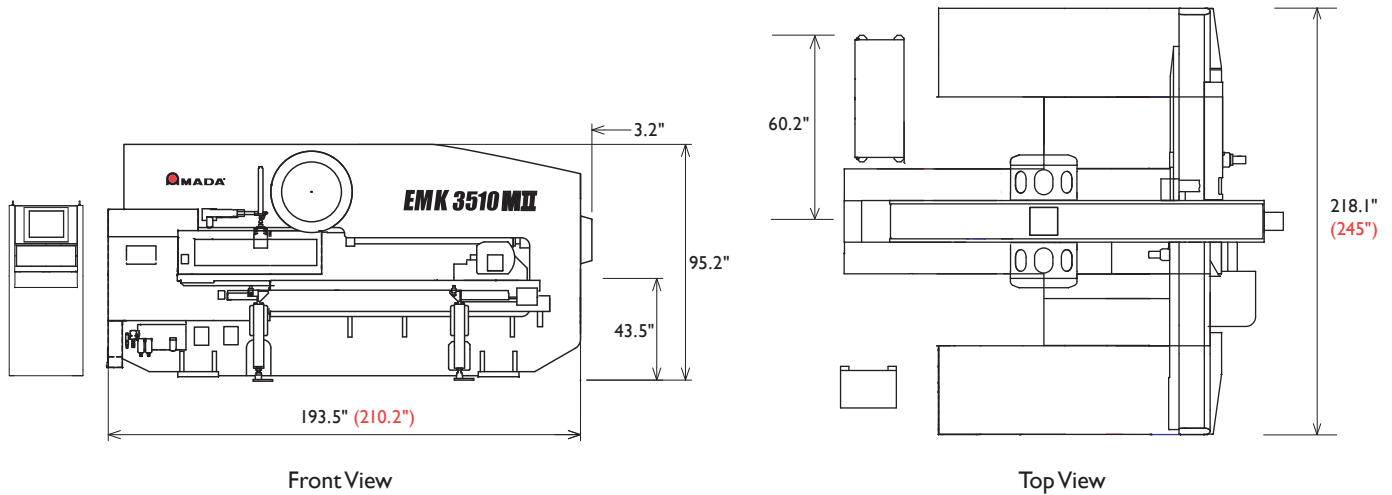
## VFACTORY® - SHOP MANAGEMENT SOFTWARE



- Monitor machine utilization and program status from any PC connected to your intranet.
- Benchmark current performance of machinery and programs.
- Measure effects of management changes on green-light time.
- Monitor consumables and preventative maintenance.

## EMK 3510 M2 / EMK 3612 M2

Dimensional differences for the EMK 3612 M2 are indicated in red.



## SPECIFICATIONS

Model	EMK 3510 M2	EMK 3612 M2
Press capacity	33 Tons	
Axis travel	X: 98.4", Y: 50"	X: 120", Y: 60"
Maximum sheet size (with one reposition)	X: 196.85", Y: 50"	X: 240", Y: 60"
Maximum sheet weight	110 lbs. (F1) / 330 lbs. (F4)	
Feed clearance	0.984"	
Stroke length	1.45"	
Maximum sheet thickness	0.187"	
Punching accuracy	± 0.004" (± 0.0027" High Accuracy mode)	
Table positioning speed	X: 3,937 ipm, Y: 3,150 ipm	
Turret rotation speed	30 rpm	
Punching hit rate 1" pitch (0.2" stroke)	X: 500 hpm, Y: 330 hpm	X: 500 hpm, Y: 300 hpm
Nibbling hit rate 0.080" pitch (0.2" stroke)	X: 745 hpm, Y: 410 hpm	
Marking hit rate 0.197" pitch (0.055" stroke)	1,800 hpm	
Electric power required	200/208 3 Phase	
Machine weight	40,700 lbs.	46,200 lbs.

Illustrations are for reference only.  
Dimensions and specifications are subject to change without notice.