

M3048 TG / M3058 TG

CNC Servo Motor Driven Ram Turret Punch Press

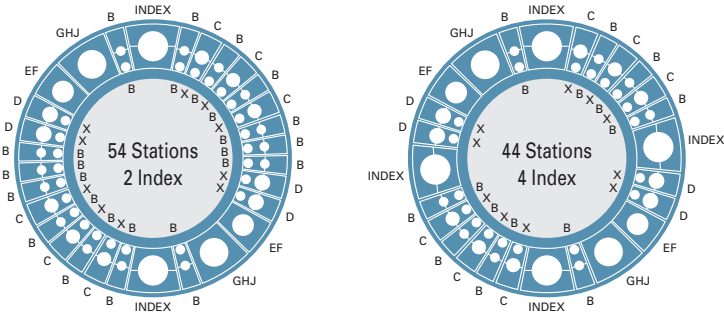


MOTORUM SERIES

M3048 TG / M3058 TG

CNC Servo Motor Driven Ram Turret Punch Press

Turret Layout



Specifications

	M3048TG	M3058TG
Punching capacity	300 kN [33.6 US tons]	
Maximum sheet thickness	6.35 mm [0.250"]	
Y-axis stroke	1360 mm [53.54"]	1665 mm [65.55"]
X-axis stroke	2580 mm [101.57"]	
Maximum sheet size (Y x X)	Without repositioning	1250 mm x 2500 mm [49.21" x 98.43"]
	With one reposition	1250 mm x 5000 mm [49.21" x 196.85"]
Throat	1340 mm [52.75"]	1620 mm [63.78"]
Feed clearance	25 mm [0.984"]	
Maximum sheet weight	150 kg [330 lbs.]	
Hit rate	25 mm pitch	7 mm stroke
	0.5 mm pitch	1.4 mm stroke
Simultaneous axis speed	125 m/min [4921"/min]	
Punching accuracy	± 0.1 mm [± 0.004"]	
Turret index speed	35 rpm	
Index tool speed	100 rpm	
Compressed air	Quantity	100 NL/min
	Pressure	0.5 MPa [71 PSI]
Power supply	25 kVA	

Option

- Varitool (Multi tool)
 - Indexable Varitool
 - Varimark
 - Tapping
 - In turret bending
- Deburring operation
 - Downward form protection
 - Programmable work holders
 - Cell Ready

■ Safety Specification
Machines built with CE-safety conformity are available as option.

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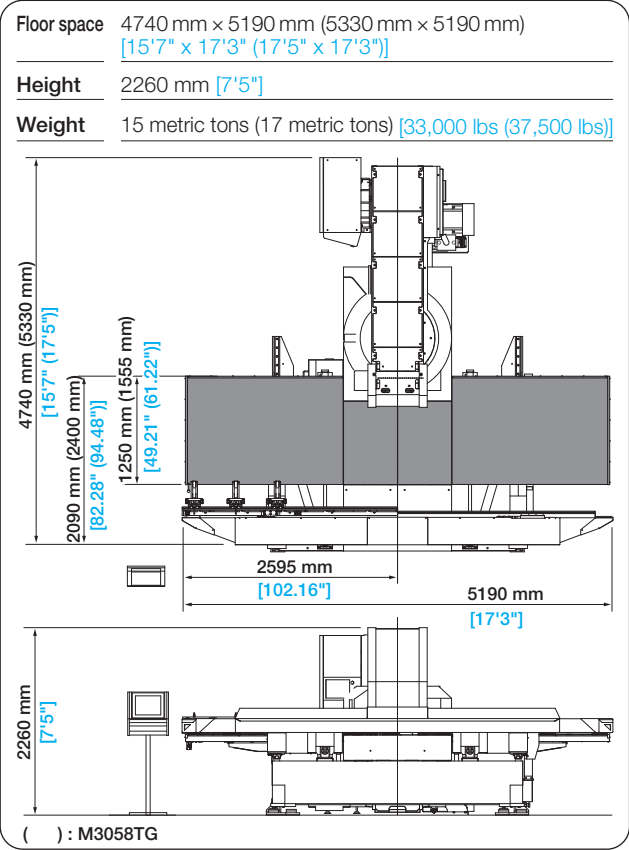
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Tooling range

Range	Round punch	No. of stations	
		54ST/2 I/T	44ST/4 I/T
X	~12.7 mm [0.5"]	10	10
B	~25.0 mm [1.0"]	28	16
C	~38.0 mm [1.5"]	6	6
D	~50.0 mm [2.0"]	4	4
E	~64.0 mm [2.5"]	2	2
F	~75.0 mm [3.0"]		
G	~89.0 mm [3.5"]	2	2
H	~105.0 mm [4.0"]		
J	~120.0 mm [4.7"]	2	4
INDEX	~75.0 mm [3.0"]		
M/T	12 Stations		
M/K	20,40 Characters		

* X stations not specified as round only.
With Auto-index stations, Index tool (I/T), VARITOOL (VT) or VARIMARK (VM) can be selected as options in desired combination.

Floor Plan



* Machine appearance may differ to that shown in the catalogue pictures.
* All specifications are subject to change without advance notice.



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CNC Servo Motor Driven Ram Turret Punch Press

The New 300 kN Solution
Latest Technology from the Inventor
of the Electric Turret Punch Press.



1 Pyramid Base Design

Stability at maximum tonnage.

2 Muratec "Green" Machine

Environmentally friendly and power efficient.

3 Latest Process Integration Options

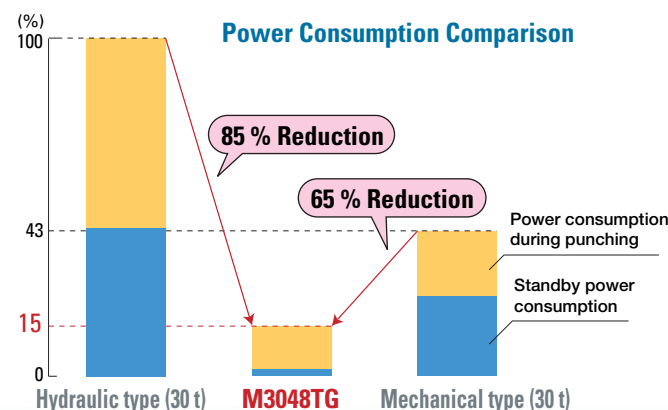
Reduce post processes with the latest machine and tooling technology. Supports tapping, forming, marking, deburring and various automation options.

4 Intelligent Control

New touch screen user interface assists the operator and increases machine productivity.

Energy Conservation & Low Running Cost

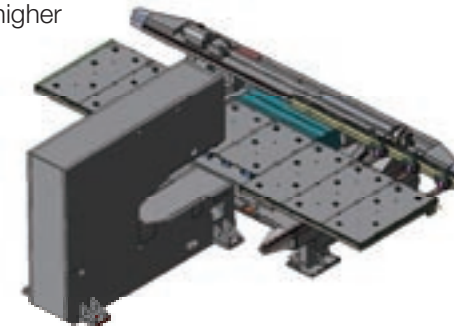
An environmentally friendly eco-machine, the Motorum servo motor drive mechanism uses energy only at the time of punching.



Machine structure

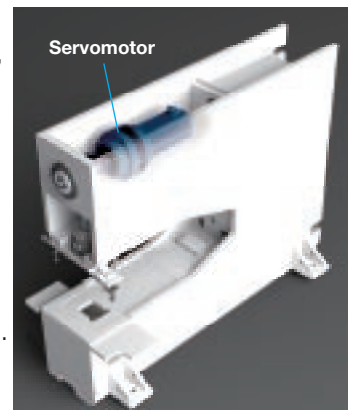
Two Piece Design

Muratec's original "C" frame is designed to isolate the press frame from the table base. At maximum tonnage shock is isolated from the table delivering increased precision and higher quality parts.



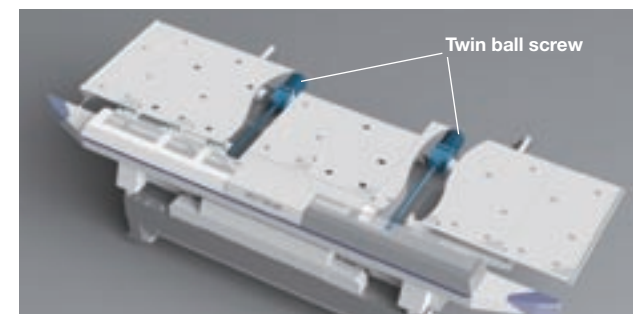
In-Line Punch Drive Design

Driven by Muratec's goal of constant improvement, the ram servo motor has been designed parallel with the press frame. This provides a compact press frame generating less stress, greater rigidity, improved hole quality and longer tool life.



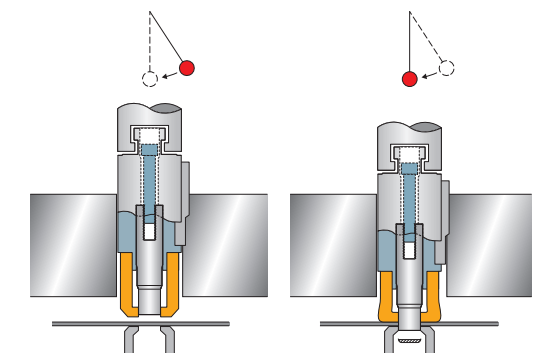
Wide Table Base & Y-Axis Twin Ball Screws

A wide frame structure supports the 2.5 M-X axis stroke table. Twin Y-axis balls screws are controlled by synchronized servo motors. Both have been engineered to realize improvements in stability and processing accuracy during high-speed movements.

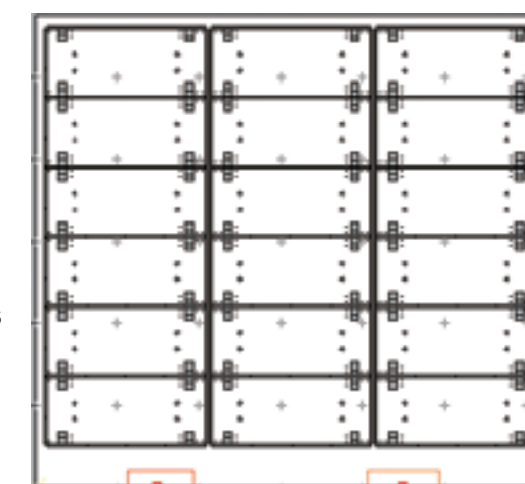
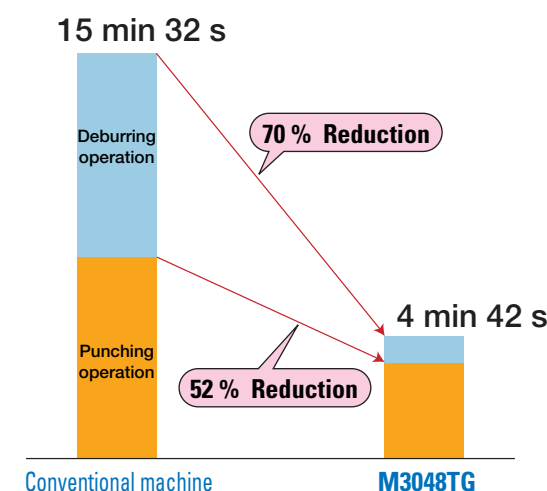


Positive Strip Tooling Is A Proven Wiedemann Design

Using a mechanical link between the ram and the punch holder provides a positive push and pull motion during the entire punching stroke. The design has been field proven for its high strength, precision and simplicity of tooling. It provides the most economical tooling solution in the industry. Also available is high end guided tooling with steel strippers providing precision production and longer tool life.



Time Study



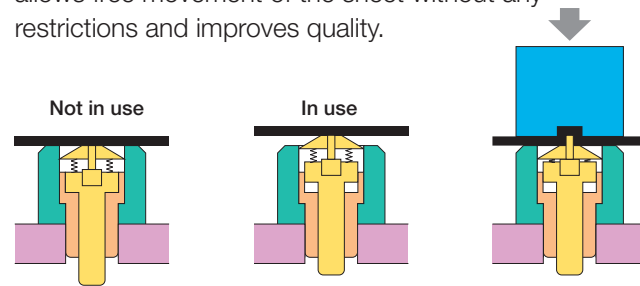
Worksheet example
Mild Steel 1.2 mm (18 ga)

Material size:
X1250 mm x Y1000 mm
[X49.2" x Y39.4"]

Number of tools: 6
Total hits: 660

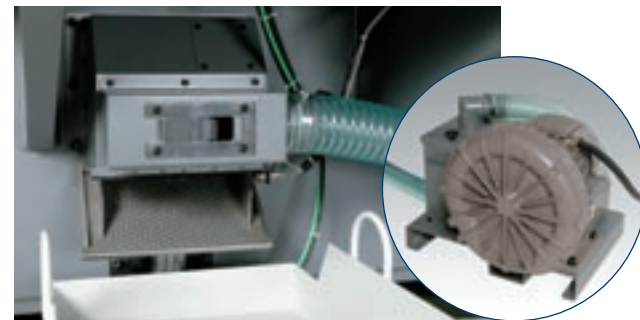
Retractable forming die function

Upward forming tool dies are retracted to die height when not in use. This is to avoid interference of the forming die with the workpiece and workholders. This allows free movement of the sheet without any restrictions and improves quality.



Slug Suction Unit

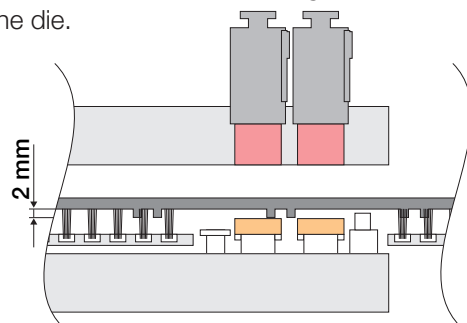
The slug suction unit enables better punching quality and minimizes slug pull-back problem for thin worksheets. This function is extremely useful while processing worksheets having scratch prevention films. The air suction helps to detach cut films from the workpiece.



Downward form protection

Option

Conventional turret punch presses have long had difficulty with downward extrusion. As the formed work is lifted off the upper surface of the die during table/sheet movement, this option eliminates degradation of the form stemming from interference with the die.



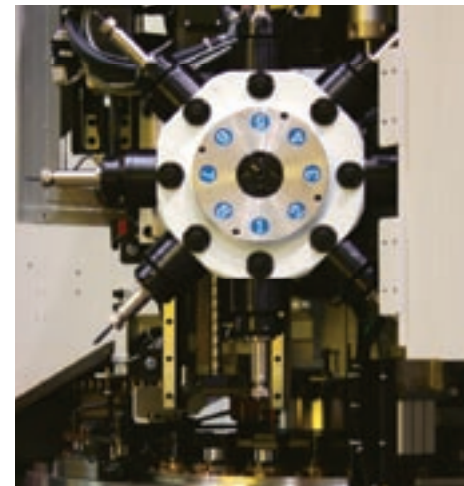
Tapping

Option

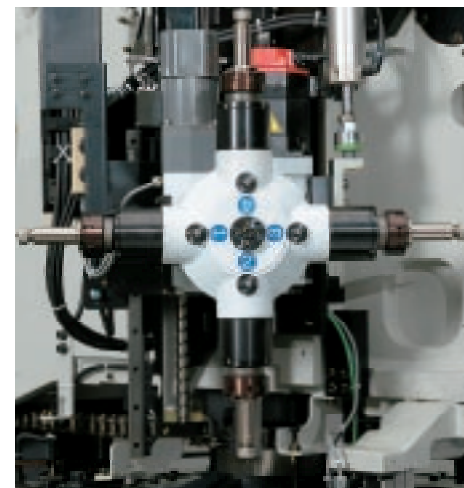
Tapping Units

Two choices of tapping units are available. Synchronization of RPM and feed speed using a servo motor allows tapping with a full range of tapping tools.

- Tap size: M2 ~ M10
- Tapping methods: Machine thread / Rolling thread
- Max. sheet thickness: 6.35 mm [0.25"]



8-Station Tapping Unit (Option)



4-Station Tapping Unit (Option)

*Specifications vary, depending on type of material, hole diameter, etc.

Tapping Vacuum Unit

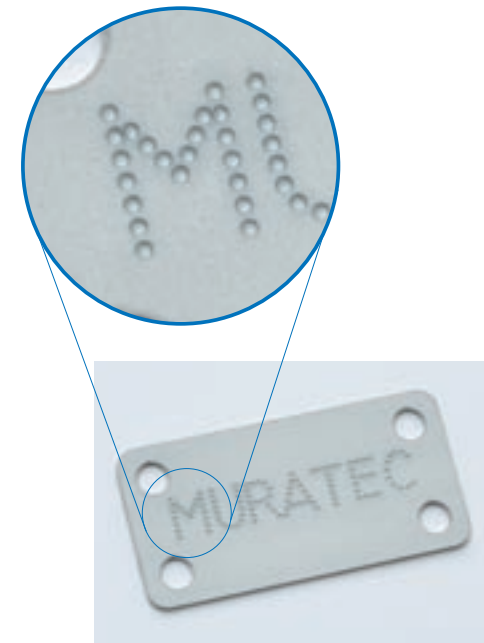
Machined cuttings are suctioned away beneath the tapping tool for improved quality.

Tapping Tool Life Monitor

The number of tapping operations is monitored and the operator is notified when a preset count is exceeded.

Part Marking / Identification

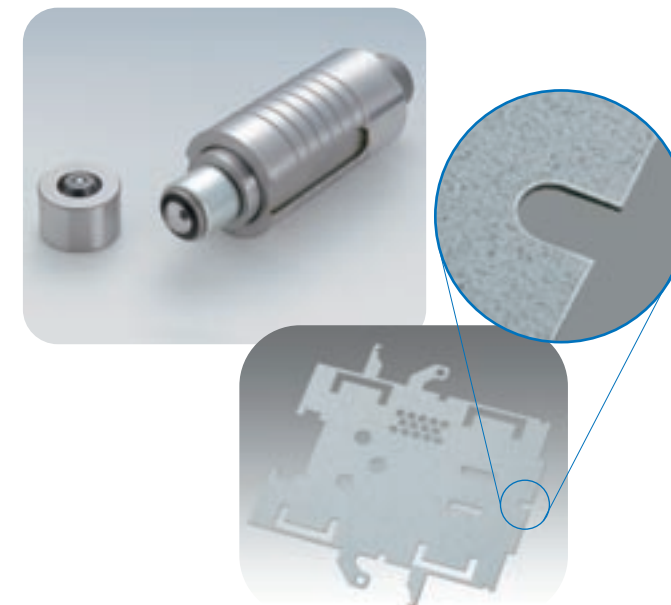
Using the machine's ability to do high-speed marking and scribing, parts can be marked with part numbers, logos, bend lines, alignment guides, etc.



Deburring Operations

Option

Deburring operations can be performed on external or internal part profiles using original tooling from Muratec. Ball bearings in the punch and die are run along the punched or sheared edge and push the burr back into the material.



Varitool / Varimark

Option

The standard Varitool is available for the auto index station in a 12 tool configuration. This tool expands turret capacity with up to 12.7mm (0.5") dia. round or shaped tools.

The Indexable Varitool also comes in a 12 tool configuration and allows all tools in the Varitool to be indexed 360°. Each tool is programmed like a separate auto index station. Any X or Y offset is automatically compensated for by the control. (Only Varitool Z)

Varitool
12-station type



The Varimark is built-in with 20 or 40 standard alphanumeric and punctuation characters for stamping on the worksheet.

Varimark
Stamping Character Size:
2.1 mm x 3.2 mm
[0.08" x 0.13"]
(40 characters)
3.2 mm x 5.0 mm
[0.13" x 0.20"]
(20 characters)



Wilson Wheel® Technology

Option



Rolling Offset



Rolling Shear

Mate Precision Tooling® Technology

Option



Sheet Marker



Roller Ball

Intelligent Control Operations

Scheduling Function

Scheduled job production guides the operator on a standalone machine and controls automatic operation using a loader system. Program NC and scheduling data is automatically downloaded to the machine. Required tooling, material and work holder setup information is also displayed.



Expanded "Tool Library"

Up to 1000 tools can be registered with 5 different conditions and a maximum of 30 material types and thicknesses. This allows for setting the detailed processing conditions for all your tooling.



Machine Control Functions

Various utilities are available to the operator. Optional log files can be viewed for machine operation and program start/finish times. Also machine alarm history can be viewed.



Turret Monitor Function

Displays information on current tooling set in the turret. This allows tooling in scheduled jobs to be analyzed and it automatically determines when tool changes are required.



*Above function requires Muratec original program format.

Processing Graphic Function

The current processing position during machine operation is displayed in red. This allows recognition at a glance of the punching sequence and production progress.



*Above function requires Muratec original program format.

Tool Management

A library of all the machine tooling is maintained on the control. The hit counts for all tools and dies are then tracked to allow scheduled maintenance when the hit counts exceed the predetermined maximum count.



*Above function requires Muratec original program format.

Tool Replacement

The touch screen monitor at the tool change area provides guidance to the operator for tool changes required in scheduled jobs. This includes punch and die, or just a die for die clearance.

