

# MOTORUM 3048

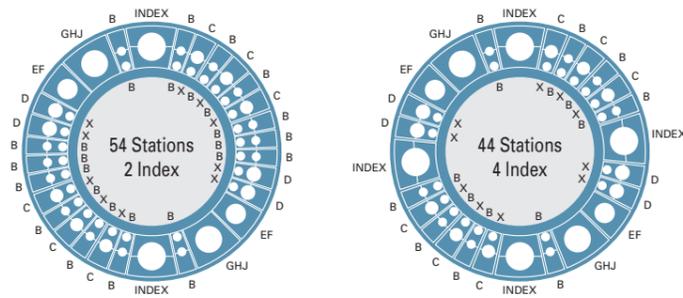
CNC Servo Motor Driven Ram Turret Punch Press



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# MOTORUM 3048

Turret Layout



Tooling range

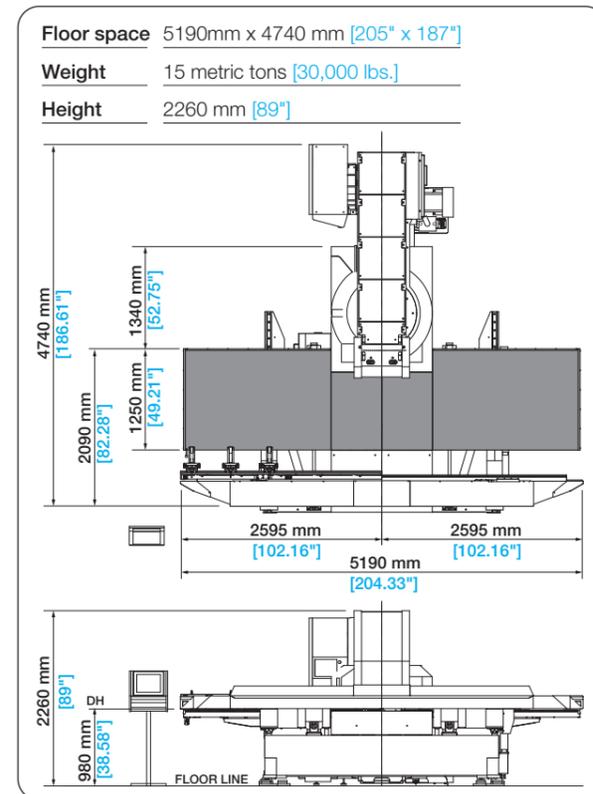
| Range | Round punch       | No. of stations |            |
|-------|-------------------|-----------------|------------|
|       |                   | 54ST/2 I/T      | 44ST/4 I/T |
| X     | ~12.7 mm [0.5"]   | 10              | 10         |
| B     | ~25.0 mm [1.0"]   | 28              | 16         |
| 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 [4.75"] | 2               | 4          |
| INDEX | ~75.0 mm [3.0"]   |                 |            |
| M/T   | 12 Stations       |                 |            |
| M/K   | 20,40 Characters  |                 |            |

\* With Auto-index stations, Index tool (I/T), VARITOOL (VT) or VARIMARK (VM) can be selected as options in desired combination.

## Specifications

|                            |   |
|----------------------------|---|
| Punching capacity          | 30 tons [33 US tons]  |
| Maximum sheet thickness    | 6.35 mm [0.250"]  |
| Y-axis stroke              | 1360 mm [53.54"]  |
| 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"]<br>With one reposition: 1250 mm x 5000 mm [49.21" x 196.85"] |
| Throat                     | 1340 mm [52.75"]  |
| Feed clearance             | 25 mm [0.984"]  |
| Maximum sheet weight       | 150 kg [330 lbs.]   |
| Hit rate                   | 25 mm pitch 7 mm stroke: 510 hpm<br>0.5 mm pitch 1.4 mm stroke: 1000 hpm  |
| Simultaneous axis speed    | 128 m/min [5039"/min]   |
| Punching accuracy          | ± 0.1 mm [± 0.004"]   |
| Turret index speed         | 35 rpm  |
| Index tool speed           | 100 rpm   |
| Compressed air             | Quantity: 100 NL/min<br>Pressure: 0.5 MPa [71 PSI]  |
| Power supply               | 25 kVA  |

Floor Plan



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

## Option

- Varitool
- Varimark
- 4-Station tapping
- 8-Station tapping
- Retractable forming die function
- Deburring operation
- Slug suction unit
- Downward form protection
- Programmable work holders
- Cell Ready

## ■ Safety Specification

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

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# MOTORUM 3048

The New 30 Ton 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

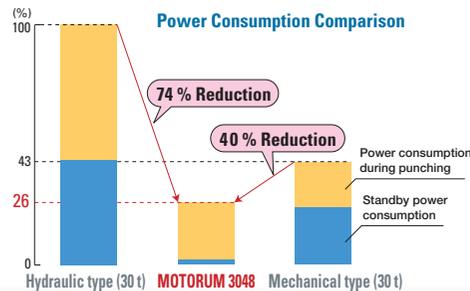
Reduce post processes with the latest machine and tooling technology. Supports tapping, forming, marking, deburring and various automation options.

## 4 Intelligent Control

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

### Energy Conservation & Low Running Cost

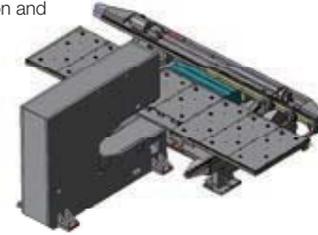
An environment-friendly eco-machine, Motorum uses the energy it needs only at the time of punching, thanks to the servo motor drive mechanism.



## Machine structure

### Two Piece Design

Muratec's original "C" frame is designed to separate the frame and table base. Even at maximum tonnage, vibrations are not carried over to the table delivering increased precision and high quality parts.



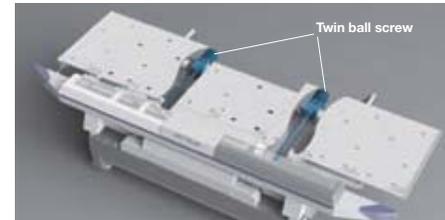
### In-Line Punch Drive Design

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, improves hole quality and tool life.



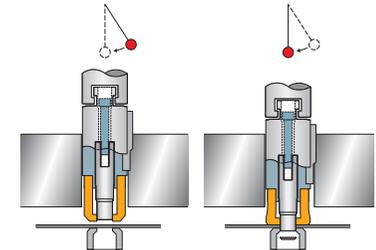
### Wide Table Base & Y-Axis Twin Ball Screws

A wide frame structure supports the 2.5M 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.

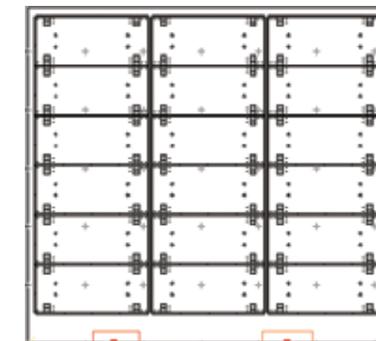
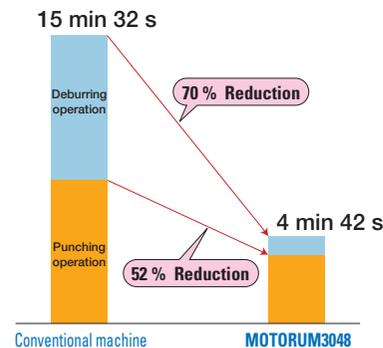


### Positive Strip Tooling Is A Proven Wiedemann Design

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 (SPCC/1.2t)

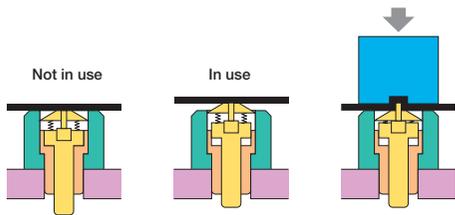
Material size: X1250 mm x Y1000 mm

Number of tools: 6  
Total hits: 660

# Machine Feature

## Retractable forming die function

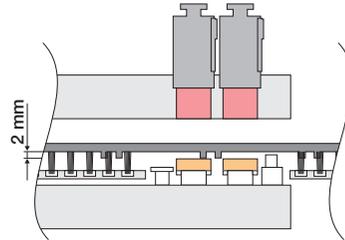
Upward forming tool dies are retracted to die height when not in use. This is to avoid interference of the forming die with the workpiece and workholders. This allows free movement of the sheet without any restrictions and improves quality.



## Downward form protection

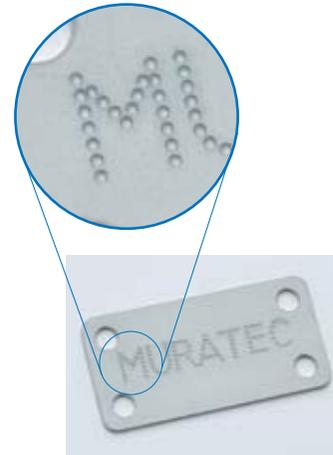
Option

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.



## 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.



## 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.



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  
(40 characters)  
3.2 mm x 5.0 mm  
(20 characters)

## Tapping

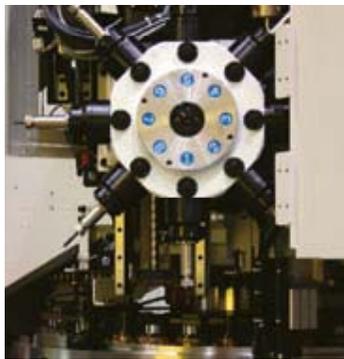
Option

### 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: 0.25"

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



8-Station Tapping Unit (Option)



4-Station Tapping Unit (Option)

### Tapping Vacuum Unit

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

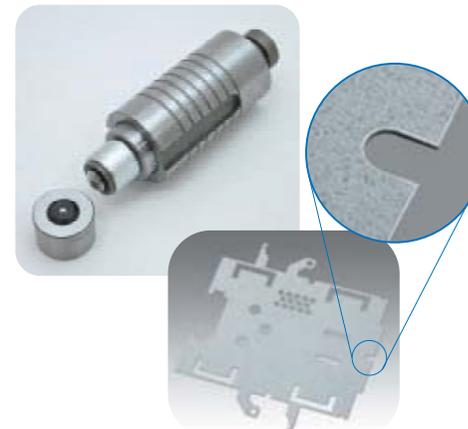
### Tapping Tool Life Monitor

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

## 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.



## 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 Processing Condition List

The processing modes of 1000 tool types with 5 pattern setups can be registered for 30 material types and thicknesses. This allows for setting the detailed processing conditions of all the customer's tooling.



## Machine Control Functions

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



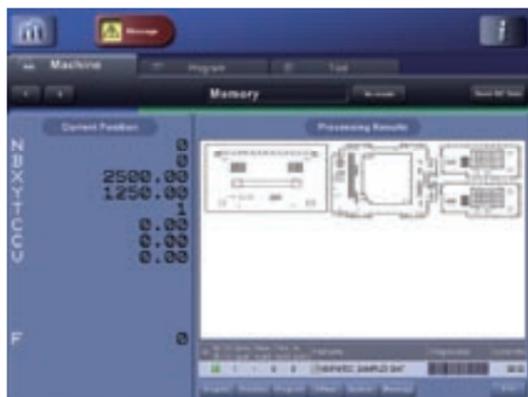
## Turret Monitor Function

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.



## Processing Simulation 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.



## 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.



## 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.

