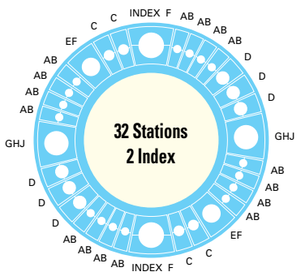
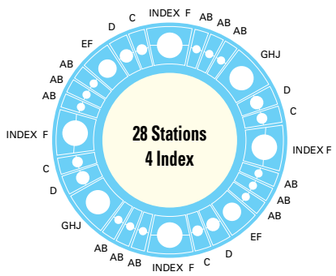
MOTORUM 2048TE

CNC Servo Motor Driven Ram Turret Punch Press

Turret Layout





Tooling Range

Range	Round punch	No. of Stations	
		32ST/2 Index	28ST/4 Index
A	~12.7 mm [0.5"]	16	12
B	~25.0 mm [1.0"]		
C	~38.0 mm [1.5"]	4	4
D	~50.0 mm [2.0"]	6	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"]		
INDEX	~75.0 mm [3.0"]	2	4
VT	12 Stations		
VM	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

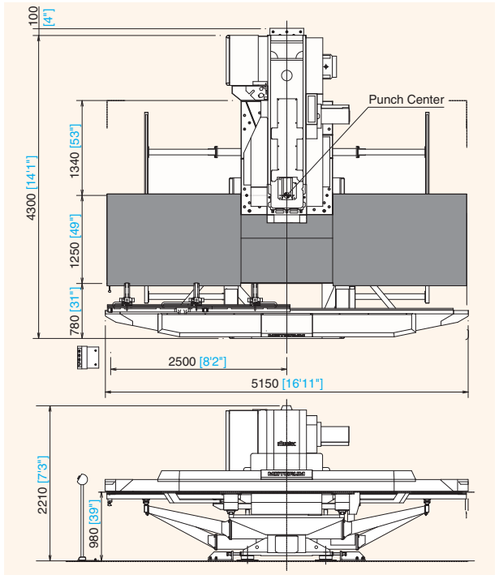
Punching capacity		200 kN (20.4 metric tons) [22.4 US tons]
Maximum sheet thickness		6.35 mm [0.25"]
Y-axis stroke		1360 mm [53.54"]
X-axis stroke		2550 mm [100.4"]
Maximum sheet size (YxX)	**Without repositioning**	1250 mm × 2500 mm [49.21" × 98.43"]
	With one reposition	1250 mm × 5000 mm [49.21" × 196.85"]
Throat depth		1340 mm [53"]
Maximum allowable sheet weight		150 kg [330 lbs]
Hit rate 1.0t	**25 mm pitch 8.3 mm stroke**	285 hpm
	0.5 mm pitch 1.4 mm stroke	900 hpm
Simultaneous axis speed		116 m/min [4567"/min]
Punching accuracy		±0.1 mm [0.004"]
Turret index speed		31 rpm
Compressed air	**Quantity**	100 NL/min
	Pressure	0.5 MPa [71 PSI]
Power supply		19 kVA

Option

- Slug suction unit
- Varitool
- Varimark
- Deburring tool control

Floor Plan

Floor space 5150 mm × 4300 mm [16'11" × 14'1"]
Weight 12 tons [26400 lbs]
Height 2210 mm [7'3"]



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

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

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Certification

CAT. NO. 要採番 B-04-2(X-TU)

muratec

CNC Servo Motor Driven Ram Turret Punch Press

MOTORUM 2048TE

MURATA MACHINERY, LTD.

MOTORUM 2048TE

The Evolution from the Pioneer in Servo Drive Punching

Muratec introduced the world's first servo driven punch press in 1994. Since then our industry leading technology has evolved to meet the next generations needs. Here is the latest in our award winning Motorum series!

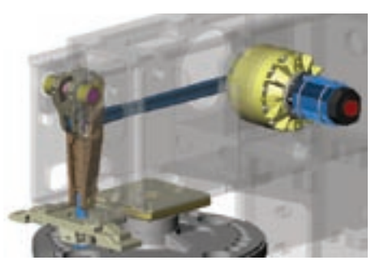
"Reliability by Design"

Utilization!
Compactness!
Functionality!

Note: Photographs in this catalogue include some options.

Simple New Drive Ram Mechanism

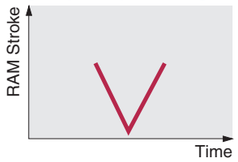
Muratec electric servo driven punch press has been evolving continuously! The newly engineered ram drive of MOTORUM 2048TE has become more simple and more rigid.
With the elimination of the Cam Drive Cylinder, the servo motor can control the ram stroke directly, resulting in higher punch speeds and productivity.
The reduction of the number of components has maximized stability during operations, decreasing maintenance and increasing longevity.
The new drive has a more efficient motor that runs cooler and requires less energy.



Ram Operation Patterns

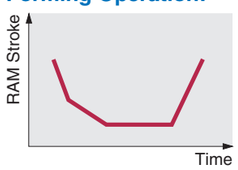
Precise RAM control is delivered through the servo motor drive. This precise control enables Ram Operation Patterns for a wide range of processes.

High speed punching:



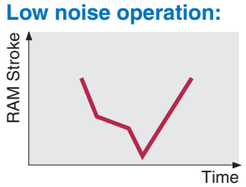
The servo motor is driven alternately between hover height and bottom dead center with a back and forth motion.
The hover height position is adjusted based on material type and thickness. This control of the ram stroke provides high speed punching and efficient productivity.

Forming Operation:



Using variable servo motor control ram stroke between top dead center and bottom dead center, the best results and excellent performance in forming tool operation can be achieved.
An important benefit of controlling the ram stroke is to specify a dwell time at bottom dead center and allow material flow during the forming operation.

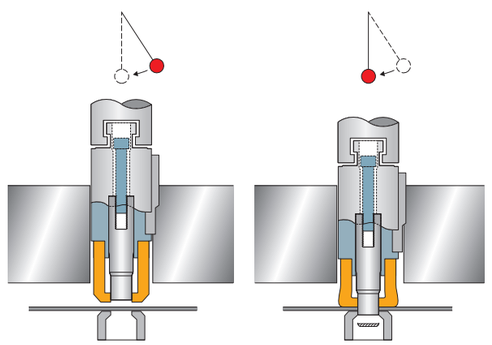
Low noise operation:



Full control of the ram speed within one punching cycle achieves the ultimate reduction in noise and vibration.

Push / Pull Wiedemann Style Tooling

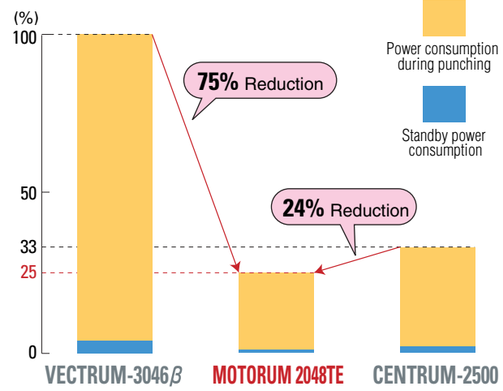
The positively engaged Push / Pull design of the ram is mechanically engaged to the punch holder during the complete punch cycle. This design guarantees a positive strip of the punch from the material. A proven design with over seventy five years of field use is simple, economical, durable and highly accurate.



Energy Conservation & Low Running Cost

An environment-friendly eco-machine, the Motorum utilizes needed energy only at the time of punching.

Power Consumption Comparison



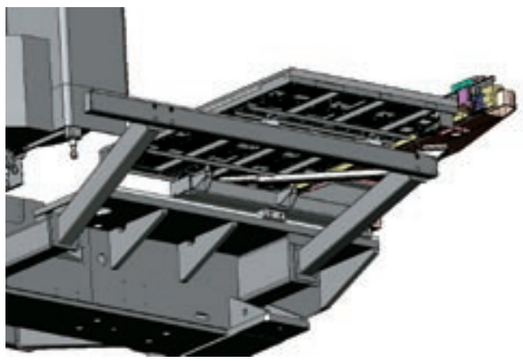
Machine Feature

Rigid Press Frame

12.5 % thicker side frames increases frame rigidity and improves stability in the punching process.

Table Structure

By utilizing a two point LM guide and precision ball screws for the X and Y axes table motion, stability and improved reliability is assured.



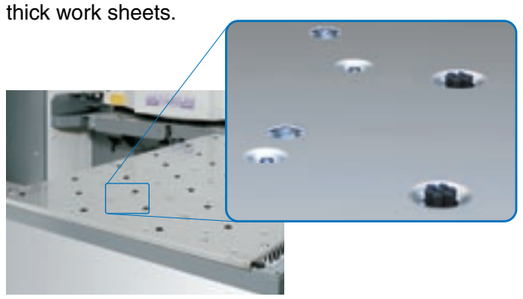
Crash Sensor

Prevent major damage to the machine. Crash sensors stop the machine when material curves upward toward the turret preventing a collision.

Designed for higher productivity, quality and operating ease

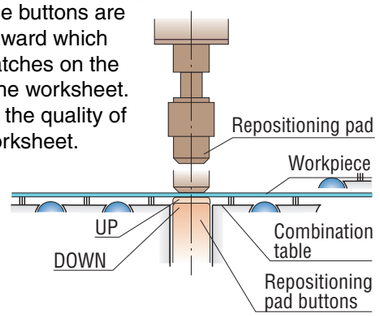
Steel ball and brush combination table

Steel balls are effective for supporting thick work sheets, and brushes are located to keep work sheets flat. This combination table is suitable for thin and thick work sheets.



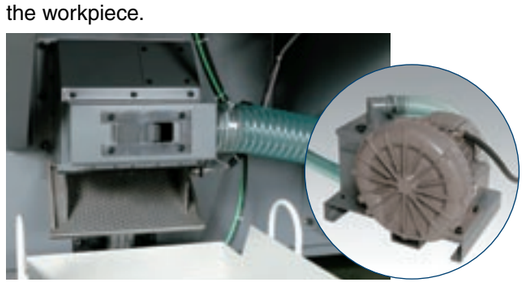
Retractable Repositioning Pad Buttons

Retractable repositioning pad buttons are raised automatically for clamping the worksheet during the repositioning operation only. During normal punching when the worksheet is moving over the repositioning pad buttons, the buttons are retracted downward which eliminates scratches on the under side of the worksheet. This enhances the quality of the finished worksheet.



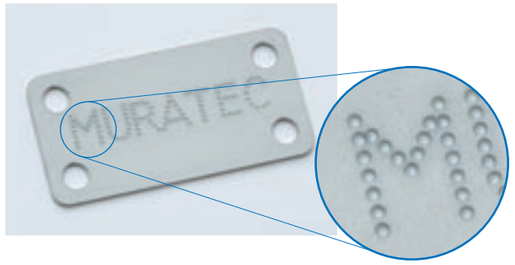
Slug Suction Unit Option

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.



High-speed Marking Mode

By using the high-speed marking mode, indentations are made in the material for easy product identification for next process in little time.



High-Speed Auto-Index Mechanism

Index tool speed has been raised to 100 rpm. Reduction of positioning time for index tool angles, multi-tools and marking tools shortens production time.

High-Speed Indexing

Fast indexing any angle shortens production of needed for complex forms.

Varitool Option

The VARITOOL is available in 12 tool configurations. Using VARITOOL in the Auto-index station increases the turret tool capacity. The 12-station tool configuration has tool sizes up to 12.7 mm dia.

Varitool
12-station type

Varimark Option

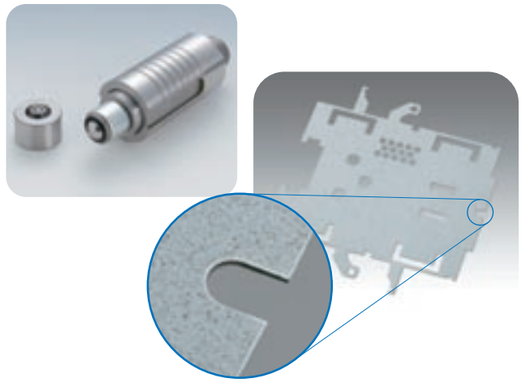
The VARIMARK is built-in with 20 or 40 standard alphanumeric and punctuation characters for stamping on the worksheet.

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)

Deburring operation Option

Single Tool Deburring Operation

Designed by Muratec, two ball bearings pinch the upper and lower punched edge of the material rolling the burr back into the material leaving radius edges.



Wilson Wheel® Option

Rolling Offset

Rolling Shear

MATE PRECISION TOOLING® Option

Sheet Marker

Roller Ball

Intelligent Control Operations

Scheduling Function

Scheduled job production guides the operator on a standalone machine. 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.