



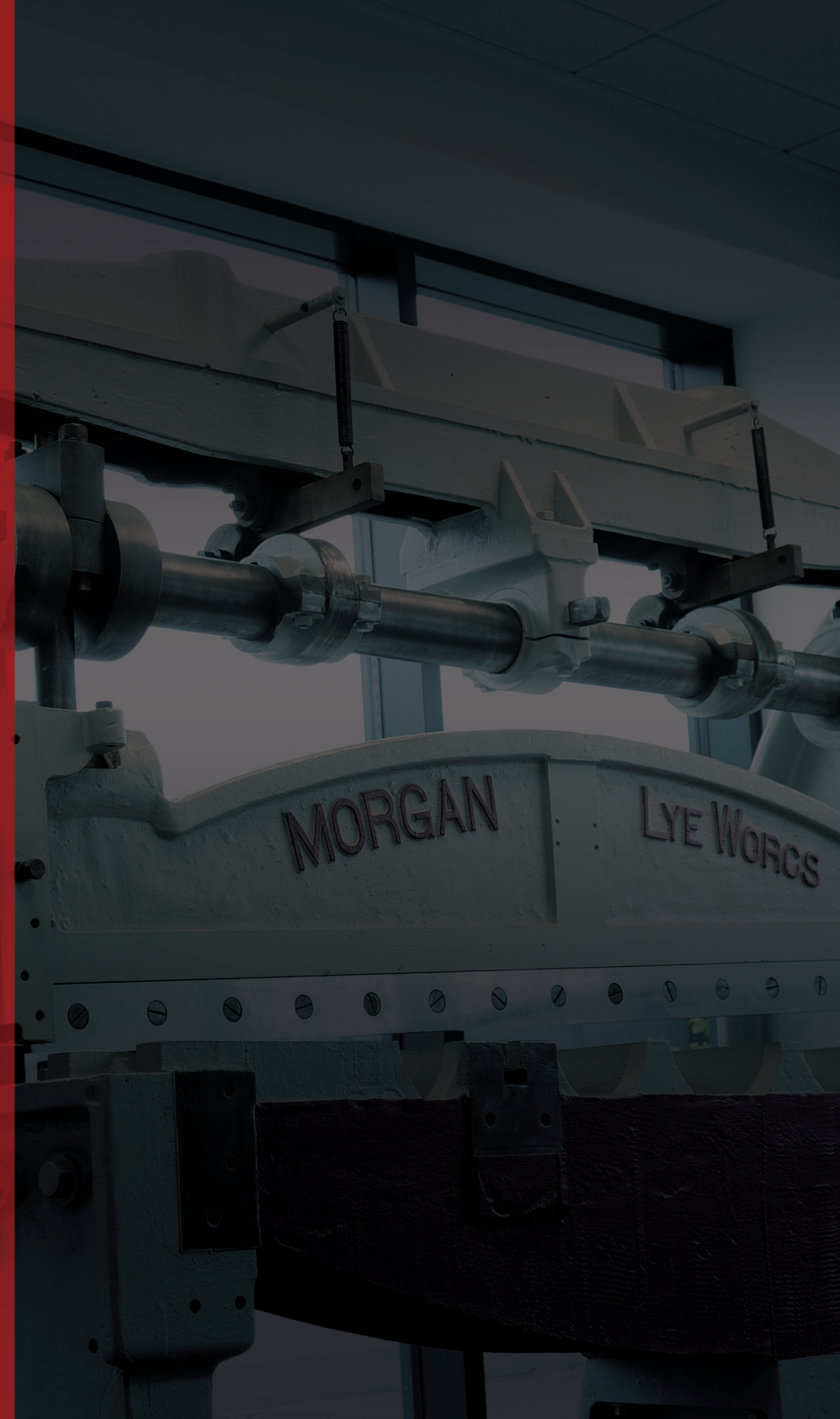
CNC PUNCH PRESS

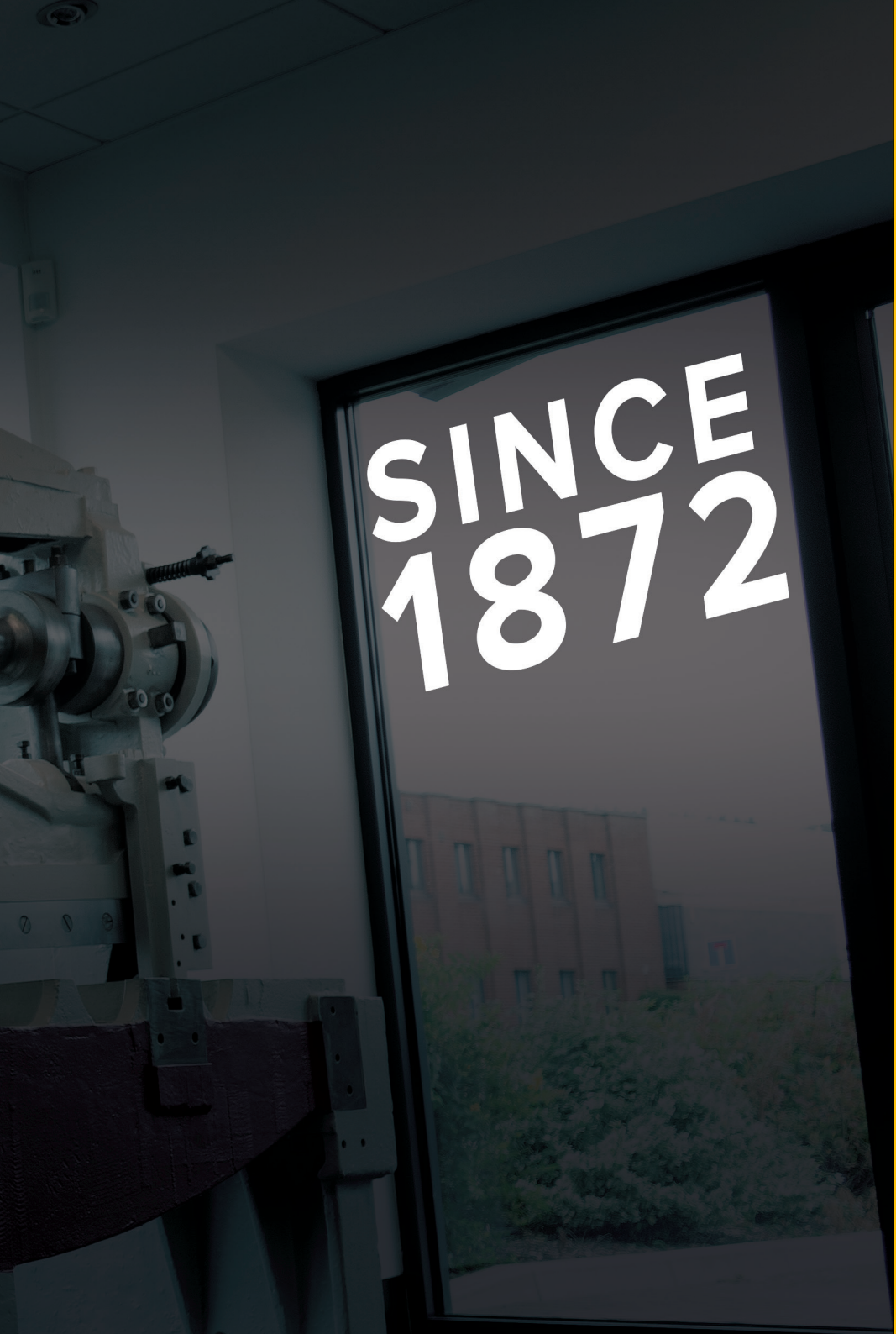


# CNC TURRET PUNCH PRESS

CNC turret punch presses in this range are engineered with a flexible construction that allows a wide variety of parts to be processed with confidence. Equipped with advanced technology, they deliver multiple operations on a single workpiece while maintaining excellent surface quality. Punching, stamping, marking, threading, bending, and forming can all be carried out with consistent precision.

The TPS Servo/Electric Turret Punch Press and the TPH Hydraulic Turret Punch Press are built around a robust steel, mono-block frame designed for long-term reliability. Their efficient architecture provides notable reductions in energy consumption, making both models highly economical to operate while maintaining strong performance across demanding production environments.



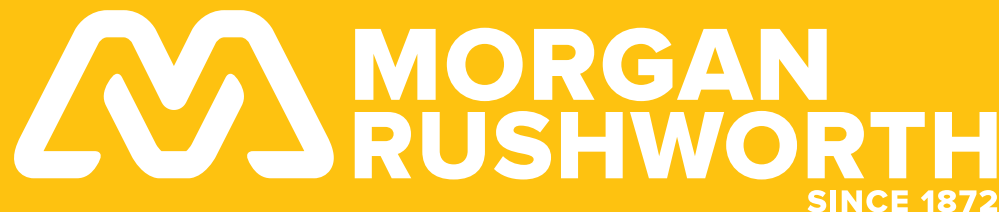


**SINCE  
1872**

## **MORGAN RUSHWORTH: 150 YEARS IN THE MAKING**

The Morgan Rushworth brand has always stood for “Excellence” and still delivers consistently high quality machinery to discerning clients around the globe. From the very beginning to the current day, Morgan Rushworth has become known for setting new standards in the metalworking industry. We are very thankful for the continued loyalty of our customers and repay them by guaranteeing the same high standards which they have come to expect.

Morgan Rushworth started off as two separate companies, each with individual success until 1972, when they successfully merged and grew steadily to become a renowned company of today. In June 2008, the company was acquired by the UK Machinery Group with a commitment to continue in the passionate development of traditionally high quality and reliable machines that have become synonymous with the Morgan Rushworth name.





# Morgan Rushworth **TPH HYDRAULIC**

Minimum Price and Maintenance Cost, Maximum Efficiency and Profit

**01**

## **PRACTICAL**

Sheet metal loading system embedded directly into the brushed table.

**02**

## **DURABILITY**

The machine is constructed with an O type mono-block rigid body structure with an Aluminium body axis structure.





03

### **POWER**

Available in 20 tonne and 30 tonne configurations for maximum power. Processing capacity up to 6 mm thick sheet metal.

04

### **FLEXIBILITY**

27 station and 33 station options with 3 automatic repositioning sheet metal holding clamps.





## **Minimum Price and Maintenance Cost, Maximum Efficiency and Profit**

The TPH Hydraulic Turret Punch Press is built on decades of proven engineering, incorporating globally recognised electronic and mechanical components into a single, highly capable system. Its design supports a wide range of punching and forming applications on sheet material up to 6 mm thick, maintaining accuracy and consistency across demanding production work.

Constructed from a heavy-duty steel, mono-block frame, the TPH delivers long-term structural rigidity and operational reliability. This robust foundation ensures stable performance over many years of service, even in high-throughput environments.

**Powerful rigid O type body**

**Ball bearing type table integrated to brush type**

**3 automatic clamping system**

**Hydraulic punching system**

**Mobile control panel and foot pedal**

**Automatic tool lubrication system**



### **HARDENED TOOL-HOLDER**

**Easy maintenance thanks to hardened housing structure of stations and low cost in replacing and renewing stations**

### **RE-POSITIONING FUNCTION**

**Uninterrupted process is enables for long sheet metals by RE-POSITIONING function at X axis of the machine.**



### **NEW GENERATION CONTROLLER**

More precise, faster positioning with Fanuc 31i-Pb controller and user friendly prevalent service support.

### **TOOL LUBRICATION**

Tools are automatically lubricated in every stroke with tool lubrication system.

### **ANTI-DEFLECTION SYSTEM**

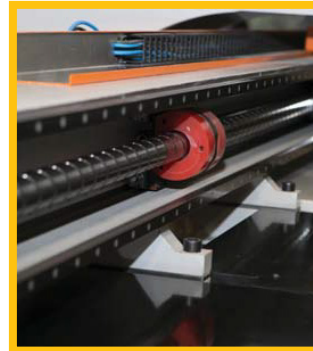
Anti-deflection system removes deflection and vibration on ball-screw enabling long service life (used in machines with axis length 2500mm).

### **RIGID STRUCTURE**

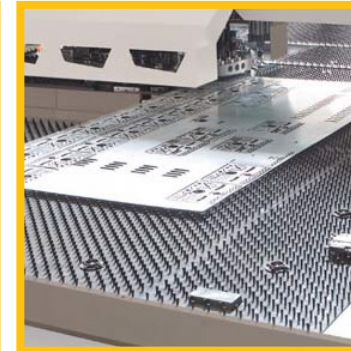
Smooth operation at high tonnages by hardened and stress-free O type body.

# TPH General Specifications

- User-friendly software
- Clamp safety margins preventing collision around the clamp
- Stroke length adjustment parameters (Form mould, Special mould, etc.)
- Stroke counts in total and for each programme
- Operation hours in total and for each programme
- Stroke counts displayed for each tool
- 33 or 27 stations
- Direct processing without re-positioning for sheet metal up to 1500 × 3000 mm
- 20- and 30-ton high-speed cylinders manufactured by H+L Voith (Germany)
- Three automatic re-positioning clamps
- O-type mono-block rigid body
- Anti-detection at X-axis shaft
- 1500 strokes per minute on average when stamping
- Brush/ball-bearing table to aid sheet loading and unloading
- Safety-margin protection guards preventing clamp collision with the tool
- Hardened tool holders with turret housing
- CNC Controlled automatic tool lubrication system
- Anti-detection system at ball-screw
- Scrap bin with wheels
- Metalix CAD/CAM software



**Anti-deflection system is used for machines with axis length 2500mm**



**Brush and ball bearing type table facilitates sheet metal loading and unloading**



**Precisely machined strong body having dynamic and static rigidity**

## CONTROLLER

**Control panel is easy to operate thanks to its quality, technology and user-friendly interface**

GE Fanuc 31i-PB - Part Program Memory, 256 KB  
Memory C, FROM / SRAM, 16 MB / 2 MB  
CPU CARD, PENTIUM, DRAM 16 MB  
Inch/Metric Conversion - Work piece Coordinate System  
Reader/Puncher Interface 1 - External Message  
Cutter Compensation C  
Part Program Memory, 256 KB  
Registered Programs, 125  
Extended Part Program Editing  
Run Hour & Parts Count Display  
Graphic Display - Multi-Piece Machining  
Multiple Tool Control - Safety Zone Check  
Clamp Zone Avoidance Function  
Safety Zone Area Expansion





| SPECIFICATION                                     | TPH 1500×3000                                                                                                                 | TPH 1500×2500                                         | TPH 1250×2500                        | TPH 1250×2000                        |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------|--------------------------------------|
| Maximum Tonnage (tons)                            | 30                                                                                                                            | 30                                                    | 20                                   | 20                                   |
| Maximum Capacity (X,Y) mm                         | 3,000 × 1,500                                                                                                                 | 2,500 × 1,500                                         | 2,500 × 1,250                        | 2,000 × 1,250                        |
| Station Qty on Turret                             | 33                                                                                                                            | 33                                                    | 27                                   | 27                                   |
| Maximum Punch Diameter (1 mm sheet)               | 88.9 mm (3.5 in)                                                                                                              | 88.9 mm (3.5 in)                                      | 88.9 mm (3.5 in)                     | 88.9 mm (3.5 in)                     |
| X-Axis Travel / Speed                             | 3,000 mm / 80 m/min                                                                                                           | 2,500 mm / 80 m/min                                   | 2,500 mm / 120 m/min                 | 2,000 mm / 120 m/min                 |
| Y-Axis Travel / Speed                             | 1,500 mm / 80 m/min                                                                                                           | 1,500 mm / 80 m/min                                   | 1,250 mm / 120 m/min                 | 1,250 mm / 120 m/min                 |
| X+Y Dependent Speed                               | 114 m/min                                                                                                                     | 114 m/min                                             | 170 m/min                            | 170 m/min                            |
| Turret Rotation Speed                             | 20 rpm                                                                                                                        | 20 rpm                                                | 27 rpm                               | 27 rpm                               |
| Auto Index Rotation Speed                         | 65 rpm                                                                                                                        | 65 rpm                                                | 65 rpm                               | 65 rpm                               |
| Max Punch Stroke (1 mm marking)                   | 2,000 stroke/min                                                                                                              | 2,000 stroke/min                                      | 2,000 stroke/min                     | 2,000 stroke/min                     |
| Max Punch Stroke (1 mm step X/Y)                  | 900 stroke/min                                                                                                                | 900 stroke/min                                        | 900 stroke/min                       | 900 stroke/min                       |
| Max Punch Stroke (25 mm step X/Y)                 | 600 stroke/min                                                                                                                | 600 stroke/min                                        | 350 stroke/min                       | 350 stroke/min                       |
| Max Cutting Thickness, Fixed Station (Mild Steel) | 6.35 mm                                                                                                                       | 6.35 mm                                               | 6.35 mm                              | 6.35 mm                              |
| Max Cutting Thickness, Fixed Station (Stainless)  | 3 mm                                                                                                                          | 3 mm                                                  | 3 mm                                 | 3 mm                                 |
| Max Cutting Thickness, Auto Index (Mild Steel)    | 4 mm                                                                                                                          | 4 mm                                                  | 4 mm                                 | 4 mm                                 |
| Max Cutting Thickness, Auto Index (Stainless)     | 2.5 mm                                                                                                                        | 2.5 mm                                                | 2.5 mm                               | 2.5 mm                               |
| Repetition Accuracy / Positioning Accuracy        | ±0.05 mm / ±0.1 mm                                                                                                            | ±0.05 mm / ±0.1 mm                                    | ±0.05 mm / ±0.1 mm                   | ±0.05 mm / ±0.1 mm                   |
| Index Positioning Accuracy                        | 0.01°                                                                                                                         | 0.01°                                                 | 0.01°                                | 0.01°                                |
| Multi-Tool Change Time                            | 3 sec                                                                                                                         | 3 sec                                                 | 3 sec                                | 3 sec                                |
| Maximum Burden Capacity                           | 225 kg                                                                                                                        | 200 kg                                                | 137 kg                               | 125 kg                               |
| Motor                                             | 11 kW                                                                                                                         | 11 kW                                                 | 7.5 kW                               | 7.5 kW                               |
| Oil Capacity                                      | 280 L                                                                                                                         | 280 L                                                 | 180 L                                | 180 L                                |
| Air Pressure                                      | 6–7 bar                                                                                                                       | 6–7 bar                                               | 6–7 bar                              | 6–7 bar                              |
| Maximum Stroke                                    | 40 mm                                                                                                                         | 40 mm                                                 | 40 mm                                | 40 mm                                |
| Sheet Clamping (Auto Repositioning) / Force       | 3 clamps / 1200 kg                                                                                                            | 3 clamps / 1200 kg                                    | 3 clamps / 1200 kg                   | 3 clamps / 1200 kg                   |
| Power Supply                                      | 25 kW                                                                                                                         | 25 kW                                                 | 25 kW                                | 25 kW                                |
| Air Supply                                        | 2.5 L/min                                                                                                                     | 2.5 L/min                                             | 2.5 L/min                            | 2.5 L/min                            |
| Working Height                                    | 950 mm (34.4 in)                                                                                                              | 950 mm (34.4 in)                                      | 950 mm (34.4 in)                     | 950 mm (34.4 in)                     |
| Table Type                                        | Brushed / Ball / Brushed & Ball                                                                                               | Brushed / Ball / Brushed & Ball                       | Brushed / Ball / Brushed & Ball      | Brushed / Ball / Brushed & Ball      |
| Machine Length                                    | 5,520 mm (217.3 in)                                                                                                           | 5,520 mm (217.3 in)                                   | 5,140 mm (202.3 in)                  | 5,140 mm (202.3)                     |
| Machine Width                                     | 6,660 mm (262.2 in)                                                                                                           | 5,000 mm (196.3 in)                                   | 5,000 mm (168.9 in)                  | 4,290 mm (168.9)                     |
| Machine Height                                    | 2,220 mm (87.4 in)                                                                                                            | 2,220 mm (87.4 in)                                    | 2,220 mm (87.4 in)                   | 2,220 mm (87.4 in)                   |
| Weight                                            | 22,000 mm (44,092 in)                                                                                                         | 18,500 mm (40,792 in)                                 | 15,500 mm (34,171 in)                | 14,000 mm (30,870 in)                |
| CAD/CAM Software                                  | Metalix - One license, Postprocessor                                                                                          | Metalix - One license, Postprocessor                  | Metalix - One license, Postprocessor | Metalix - One license, Postprocessor |
| Position Control                                  | Voith Turbo H + L Hydraulics                                                                                                  | Voith Turbo H + L Hydraulics                          | Voith Turbo H + L Hydraulics         | Voith Turbo H + L Hydraulics         |
| Linear Axes (X & Y)                               | Y1 + Y2 axis of the Ballscrew<br>Direct Drive Fanuc Servo Motor<br>X Axis of a rack and pinion + Reducer<br>Fanuc Servo Motor | All axes absolute Ballscrew with<br>Fanuc servo motor |                                      |                                      |

# Morgan Rushworth **TPS SERVO & ELECTRIC**

Faster, More Precise, More Environment Friendly

**01**

## **ENVIRONMENTALLY FRIENDLY**

Up to 40% lower power consumption compared with hydraulic punches due to minimum power draw during idle.

**02**

## **QUIETER**

No hydraulics means the machine runs much quieter than a hydraulic machine.







**03**

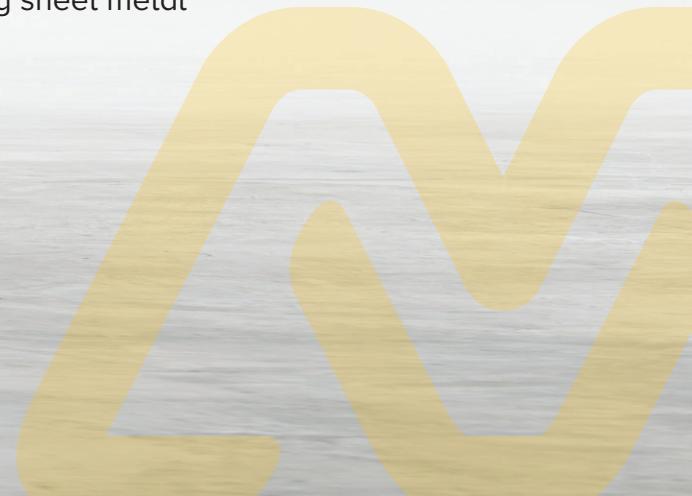
### **POWER**

Servo-Electric Punching System up to 30 Tonnes.

**04**

### **FLEXIBILITY**

27 station and 33 station options with  
3 automatic repositioning sheet metal  
holding clamps.



## **Faster, More Precise, More Environment Friendly**

The Morgan Rushworth TPS Servo Turret Punch Press builds on proven industry experience, offering a hydraulic-free servo drive system that delivers exceptional speed, accuracy, and energy efficiency. Combining globally recognised electronic and mechanical components within a single, integrated platform, the TPS provides reliable performance across a wide range of production demands.

Capable of handling applications on sheet material up to 6 mm thick, the TPS is engineered for long-term durability through its heavy-duty steel, mono-block frame. This rigid construction ensures consistent precision over many years of operation, making the TPS a dependable solution for versatile punching and forming work.

**Minimum energy consumption**

**Oil-free environmental system**

**Direct drive servo punch system**

**Minimum noise level**

**Flexible programmable stroke structure**

**Minimum maintenance cost**



### **RIGID AND STRONG BODY**

**Precisely machined strong body having dynamic and static rigidity.**

### **BRUSH AND BALL BEARING TYPE TABLE**

**Process table can be used as brush or ball bearing type upon request.**





### **REDUCED DOWN-TIME RISK**

**Wearing is minimised by using less mechanical parts thanks to Direct Drive Servo technology.**

### **REDUCED NOISE LEVEL**

**Provides a quiet operation environment by removing hydraulic pump, motor and cooler of the hydraulic system and the noise generated from them.**

### **ENVIRONMENTAL FRIENDLY**

**Minimum oil consumption thanks to servo motor technology and environment friendly by low power consumption because of no oil cooling requirement.**

### **LOW ENERGY CONSUMPTION**

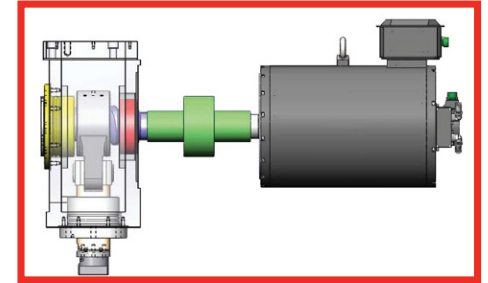
**Provides 40% lower power consumption compared with hydraulic punches by keeping power level at minimum during stand-by.**

## TPS - Servo Electric Hammer System Specifications

- Maintenance-free oil-free, long service life
- Low energy consumption, minimum 40% power saving
- Problem-free long service life with less mechanical parts thanks to it's unique design
- Speeds and low, medium, top punching positions can be programmed as requested with flexible programmable stroke structure
- All positioning actions are more precise since Servo-Electric hammer system is driven with servo motor
- Always provides maximum torque even at high and low speeds
- Enables stamping and nibbling soft punch, precise forming with wheeled tools
- Motor integrated thermal protection and water cooling system
- Environment friendly because no oil is used
- 2 model with 20 or 30 tons punching power
- IP65 protection grade

## Servo Motor Specifications

- High torque even at low speeds
- More power up to 3 times more load
- IP65
- Water cooling
- High durability
- Built-in thermal protection
- Built-in absolute encoder system



### CONTROLLER

**Control panel is easy to operate thanks to its quality, technology and user-friendly interface**

GE Fanuc 31i-PB - Part Program Memory, 256 KB  
Memory C, FROM / SRAM, 16 MB / 2 MB  
CPU CARD, PENTIUM, DRAM 16 MB  
Inch/Metric Conversion - Work piece Coordinate System  
Reader/Puncher Interface 1 - External Message  
Cutter Compensation C  
Part Program Memory, 256 KB  
Registered Programs, 125  
Extended Part Program Editing  
Run Hour & Parts Count Display  
Graphic Display - Multi-Piece Machining  
Multiple Tool Control - Safety Zone Check  
Clamp Zone Avoidance Function  
Safety Zone Area Expansion

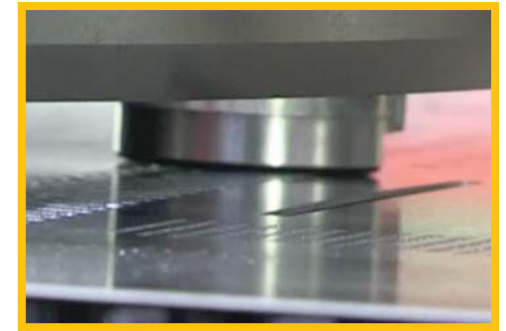




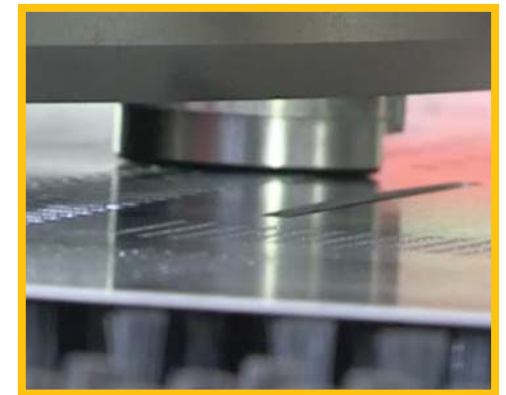
| SPECIFICATION                                     | TPS 1500×3000                                                                                                                 | TPS 1500×2500                                         | TPS 1250×2500                        | TPS 1250×2000                        |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------|--------------------------------------|
| Maximum Tonnage (tons)                            | 30                                                                                                                            | 30                                                    | 20                                   | 20                                   |
| Maximum Capacity (X,Y) mm                         | 3,000 × 1,500                                                                                                                 | 2,500 × 1,500                                         | 2,500 × 1,250                        | 2,000 × 1,250                        |
| Station Qty on Turret                             | 33                                                                                                                            | 33                                                    | 33                                   | 27                                   |
| Maximum Punch Diameter (1 mm sheet)               | 88.9 mm (3.5 in)                                                                                                              | 88.9 mm (3.5 in)                                      | 88.9 mm (3.5 in)                     | 88.9 mm (3.5 in)                     |
| X-Axis Travel / Speed                             | 3,000 mm / 80 m/min                                                                                                           | 2,500 mm / 80 m/min                                   | 2,500 mm / 80 m/min                  | 2,000 mm / 120 m/min                 |
| Y-Axis Travel / Speed                             | 1,500 mm / 80 m/min                                                                                                           | 1,500 mm / 80 m/min                                   | 1,500 mm / 80 m/min                  | 1,500 mm / 120 m/min                 |
| X+Y Dependent Speed                               | 114 m/min                                                                                                                     | 114 m/min                                             | 114 m/min                            | 170 m/min                            |
| Turret Rotation Speed                             | 20 rpm                                                                                                                        | 20 rpm                                                | 20 rpm                               | 27 rpm                               |
| Auto Index Rotation Speed                         | 65 rpm                                                                                                                        | 65 rpm                                                | 65 rpm                               | 65 rpm                               |
| Max Punch Stroke (1 mm marking)                   | 2,000 stroke/min                                                                                                              | 1,200 stroke/min                                      | 1,200 stroke/min                     | 1,500 stroke/min                     |
| Max Punch Stroke (1 mm step X/Y)                  | 900 stroke/min                                                                                                                | 900 stroke/min                                        | 900 stroke/min                       | 900 stroke/min                       |
| Max Punch Stroke (25 mm step X/Y)                 | 600 stroke/min                                                                                                                | 600 stroke/min                                        | 600 stroke/min                       | 350 stroke/min                       |
| Max Cutting Thickness, Fixed Station (Mild Steel) | 6.35 mm                                                                                                                       | 6.35 mm                                               | 6.35 mm                              | 6.35 mm                              |
| Max Cutting Thickness, Fixed Station (Stainless)  | 3 mm                                                                                                                          | 3 mm                                                  | 3 mm                                 | 3 mm                                 |
| Max Cutting Thickness, Auto Index (Mild Steel)    | 4 mm                                                                                                                          | 4 mm                                                  | 4 mm                                 | 4 mm                                 |
| Max Cutting Thickness, Auto Index (Stainless)     | 2.5 mm                                                                                                                        | 2.5 mm                                                | 2.5 mm                               | 2.5 mm                               |
| Repetition Accuracy / Positioning Accuracy        | ±0.05 mm / ±0.1 mm                                                                                                            | ±0.05 mm / ±0.1 mm                                    | ±0.05 mm / ±0.1 mm                   | ±0.05 mm / ±0.1 mm                   |
| Index Positioning Accuracy                        | 0.01°                                                                                                                         | 0.01°                                                 | 0.01°                                | 0.01°                                |
| Multi-Tool Change Time                            | 3 sec                                                                                                                         | 3 sec                                                 | 3 sec                                | 3 sec                                |
| Maximum Burden Capacity                           | 225 kg                                                                                                                        | 200 kg                                                | 200 kg                               | 125 kg                               |
| Air Pressure                                      | 6–7 bar                                                                                                                       | 6–7 bar                                               | 6–7 bar                              | 6–7 bar                              |
| Maximum Stroke                                    | 32 mm                                                                                                                         | 32 mm                                                 | 32 mm                                | 32 mm                                |
| Sheet Clamping (Auto Repositioning) / Force       | 4 clamps / 1200 kg                                                                                                            | 3 clamps / 1200 kg                                    | 3 clamps / 1200 kg                   | 3 clamps / 1200 kg                   |
| Power Supply                                      | 60 kW                                                                                                                         | 60 kW                                                 | 60 kW                                | 60 kW                                |
| Air Supply                                        | 2.5 L/min                                                                                                                     | 2.5 L/min                                             | 2.5 L/min                            | 2.5 L/min                            |
| Working Height                                    | 950 mm (34.4 in)                                                                                                              | 950 mm (34.4 in)                                      | 950 mm (34.4 in)                     | 950 mm (34.4 in)                     |
| Table Type                                        | Brushed / Ball / Brushed & Ball                                                                                               | Brushed / Ball / Brushed & Ball                       | Brushed / Ball / Brushed & Ball      | Brushed / Ball / Brushed & Ball      |
| Machine Length                                    | 5,520 mm (217.3 in)                                                                                                           | 5,520 mm (217.3 in)                                   | 5,520 mm (217.3 in)                  | 5,520 mm (217.3 in)                  |
| Machine Width                                     | 6,660 mm (262.2 in)                                                                                                           | 5,000 mm (196.3 in)                                   | 5,000 mm (196.3 in)                  | 4,290 mm (168.9)                     |
| Machine Height                                    | 2,220 mm (87.4 in)                                                                                                            | 2,220 mm (87.4 in)                                    | 2,220 mm (87.4 in)                   | 2,220 mm (87.4 in)                   |
| Weight                                            | 22,000 mm (44,092 in)                                                                                                         | 18,500 mm (40,792 in)                                 | 18,500 mm (40,792 in)                | 16,000 mm (35,270 in)                |
| CAD/CAM Software                                  | Metalix - One license, Postprocessor                                                                                          | Metalix - One license, Postprocessor                  | Metalix - One license, Postprocessor | Metalix - One license, Postprocessor |
| Position Control                                  | Servo Mechanical Press 30 Tonne                                                                                               | Servo Mechanical Press 30 Tonne                       | Servo Mechanical Press 20 Tonne      | Servo Mechanical Press 20 Tonne      |
| Linear Axes (X & Y)                               | Y1 + Y2 axis of the Ballscrew<br>Direct Drive Fanuc Servo Motor<br>X Axis of a rack and pinion + Reducer<br>Fanuc Servo Motor | All axes absolute Ballscrew with<br>Fanuc servo motor |                                      |                                      |

## STANDARD EQUIPMENT ACROSS BOTH RANGES

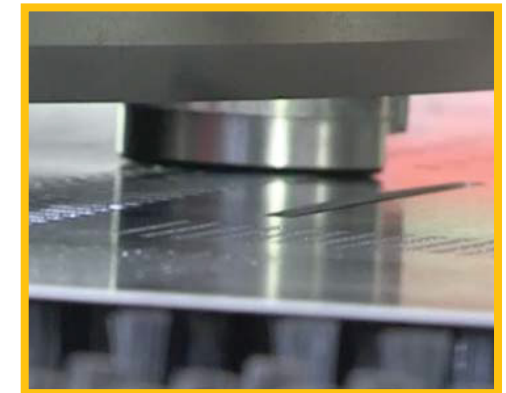
- 20 and 30-ton direct-drive servo punching system on TPS (Servo models)
- 27- or 33-station turret configurations available
- O-type hardened mono-block rigid frame
- Hardened housing system for every station on the turret
- FANUC CNC control with dynamic brushless Alpha Series servo motors and highly precise absolute encoders (no reference return required)
- Three automatic re-positioning clamps with sheet-control switches (four on machines with 3000 mm X-axis)
- Sheet-control switches integrated into the clamp assemblies
- Aluminium clamp-carrier body
- User-friendly display panel and software developed by the engineering team
- Automatic tool-lubrication system (air-blow type)
- CAD/CAM software included (Metalix)
- Water-cooling system for hammering unit (TPS Servo-Electric models)
- Multiple axis/table size options:  
1,250 × 2,000 mm, 1,250 × 2,500 mm, 1,500 × 2,000 mm, 1,500 × 2,500 mm, 1,500 × 3,000 mm
- Software-based collision-avoidance system for tool and clamp protection
- Software for managing wheel-tool and forming-tool functions
- Scrap bin with wheels
- Sheet-support ball bearings embedded into the brush table
- Full perimeter chained safety-protection system
- Anti-detection system on X-axis to prevent clamp or tool collisions
- Digital oil-temperature display (where applicable on TPH Models)
- Sheet-jumping switches preventing collision of warped or undulated sheet material with the turret
- CE Light Barriers
- Tool-stuck safety detection system
- Re-positioning cylinders operating above and below the sheet as required
- Stroke-length adjustment parameters for better forming performance
- Machine operation and maintenance instructions included



Smooth cutting of sheet metal in requested shape with punch tools up to 88.9 mm In diameter



Wheeled form tools can operate without any options



Savings for power and operation costs with stamping speed up to 1500 strokes per minute



## OPTIONAL EQUIPMENT

- Cutting and forming tools in various dimensions and forms
- Pilot calibration tools
- Coatings for cutting stainless material (TIN, TiCN, TiCN Plus, MOVIC)
- • 3 and 8 multi-tool stations
- • Tool grinding machine
- Adaptors for various stations (B, C, D)
- Additional sheet metal holder clamps
- Work-chute table
- Stainless ball bearing table
- Automatic loading - unloading system
- Extra hydraulic oil cooling system
- Automatic central lubrication system
- Scrap suction unit
- Automatic positioning and second usage license for CAD/CAM Software
- Automatic part drop system



## TOOL GRINDING MACHINE

Tool grinding machine provides sharpening of worn out tools. Sharper tools, maximises the efficient operating hours of the press and extended tool service life is guaranteed.



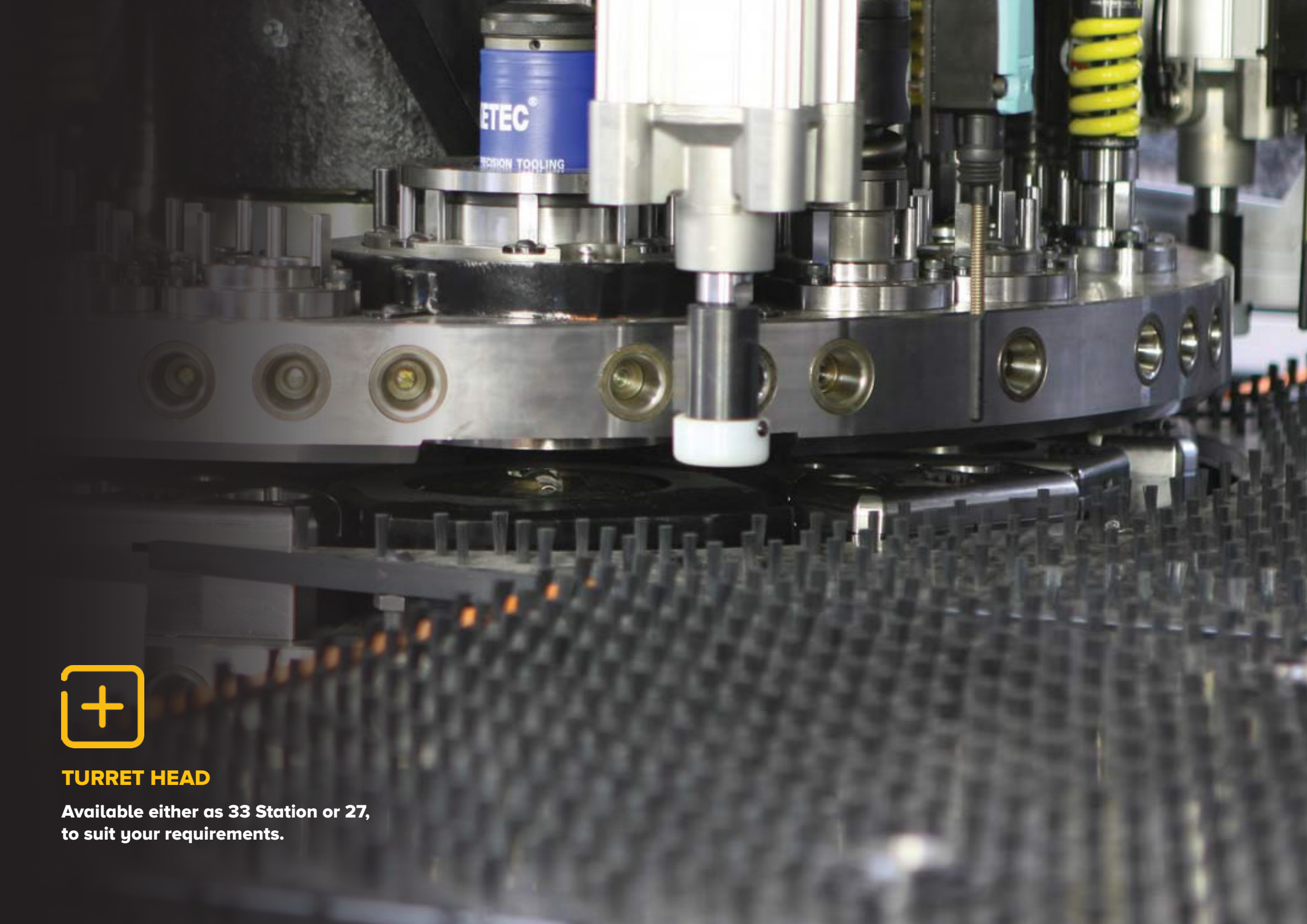
3 automatic re-positioning powerful clamps on table enables easy movement of sheet metal on table (Standard)



Parts cut off will not fall onto sheet metal thanks to part drop system, thus part deformation will be prevented (Optional)



Foot pedal and button panel gives the advantage to operate the machine remotely. (Standard)



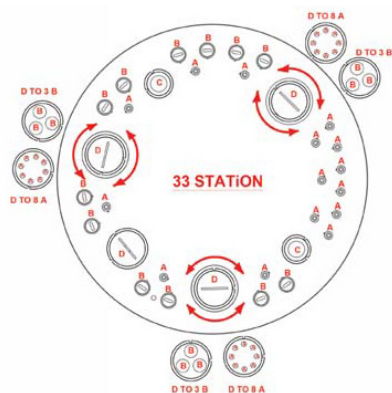
## **TURRET HEAD**

Available either as 33 Station or 27,  
to suit your requirements.

## TURRET HEAD - GENERAL SPECIFICATION

The Morgan Rushworth TPS and TPH Turret Punch Press range is available with either 33-station or 27-station turret configurations. In the 33-station version, three of the D-station positions are fully indexable, and optional multi-tool sets—such as 8A, 3B or 1C—can be fitted on request. This allows the total tool capacity to increase to as many as 54 tools, providing exceptional flexibility for varied production requirements.

A hardened, steel-coated tool adaptor system ensures long, maintenance-free service life, while the turret design supports a wide selection of functional tooling. Multiple forming operations can be performed with ease, enabling the production of different diameters, shapes, and surface details as required.



### TURRET 33 STATION TOOL LAYOUT

- 15 x A stations 1/2" fixed 1.6 - 12.7mm round
- 12 x B stations 1-1/4" fixed 12.8 - 31.7mm round
- 2 x C stations 2" fixed 31.8 - 50.8mm round
- 1 x D stations 3-1/2" fixed 50.9 - 88.9mm round
- 3 x D stations 3-1/2" index 50.9 - 88.9mm round



Different contours at required angles can be punched with 3 automatic index stations and these stations may include 8A, 3B or 1C station tools upon customers request and so a wide range of tooling combinations are possible. Index positioning accuracy is 0.01 degrees.



900 strokes punching speed and 1500 strokes stamping speed Speed depending on X+Y axis is 120 m/min. and positioning accuracy is  $\pm 0.1$  mm, repetition accuracy is  $\pm 0.05$  mm.

**Thick turret system**

**Operation with multi-tools**

**Tool holders with housing**

**Anti-backlash reducer structure on indexes**

**Direct drive driven indexes**

### TURRET 27 STATION TOOL LAYOUT

- 11 x A stations 1/2" fixed 1.6 - 12.7mm round
- 10 x B stations 1-1/4" fixed 12.8 - 31.7mm round
- 1 x C stations 2" fixed 31.8 - 50.8mm round
- 2 x D stations 3-1/2" fixed 50.9 - 88.9mm round
- 2 x B stations 1-1/4" index 12.8 - 31.7mm round
- 1 x C station 2" index 31.8 - 50.8mm round





## **BRUSH AND BALL BEARING TYPE TABLE**

Available as Brush, Ball or both on request.

## BRUSH / BALL BEARING TABLE - GENERAL SPECIFICATION

A 2500 × 1500 mm processing table is available with either brush or ball-bearing support to provide smooth, low-friction sheet handling. Both table types are supplied as required. The control system automatically adjusts axis acceleration according to the weight of the material, ensuring stable and efficient movement during processing.

Precision linear bearings, zero-clearance guides, high-accuracy screw drives, dynamic servo motors and intelligent drive systems are used on both the X and Y axes. This combination maintains exceptional positional accuracy without compromise, even at high operating speeds.

| STANDARD TABLE DIMENSIONS |
|---------------------------|
| 1,250 mm x 2,000mm        |
| 1,250 mm x 2,500mm        |
| 1,500 mm x 2,000mm        |
| 1,500 mm x 2,500mm        |
| 1,500 mm x 3,000mm        |



Work pieces are manufactured without damage and smoothly thanks to the specialist brush system

**The Morgan Rushworth TPS and TPH Turret Punch models offer significant advantages for businesses aiming to save time, reduce costs, and improve on-time delivery. Designed to support efficient, high-productivity work flows, these machines simplify the transition towards lean and flexible manufacturing, enabling faster throughput and more reliable turnaround across a wide variety of production requirements.**

## CONTROLLER SPECIFICATIONS (361i-PB Fanuc - TPH / TPS)

- Industrial controller with graphic display
- Part program memory, SSD 2 MB
- 1024 recordable programs
- Off-line program simulation
- Operation counter, part counter and stroke count discount display
- Program transfer from USB or PCMCIA memory cards or over Ethernet
- Monitoring and supervising PLC over CNC
- Controlling and supervising Servo and drives from CNC display
- Stroke length-speed setting parameters
- Inch / Metric conversion
- Clamp zone protection function
- Multi-tool control
- Total stroke counts for each tool and each program can be seen over CNC

## OFF-LINE SOFTWARE

### Easy to Learn

Designed to reduce learning time to minimum. Simple, user-friendly menus guide users at all times, enabling them to produce parts from the first day.

### Part Placement and Tooling

Part design, nesting and manufacturing technology realised only in one program. This integration reduces the time and effort required to generate numerical control program.

### Benefits

Excellent combination of perfect flexibility and maximum performance manual and automatic nesting helps you to save time for hard manual placement functions such as grid copying, handling, rotating. Additionally, selections done by the system can easily be changed for macro commands.



### High Quality on Forming

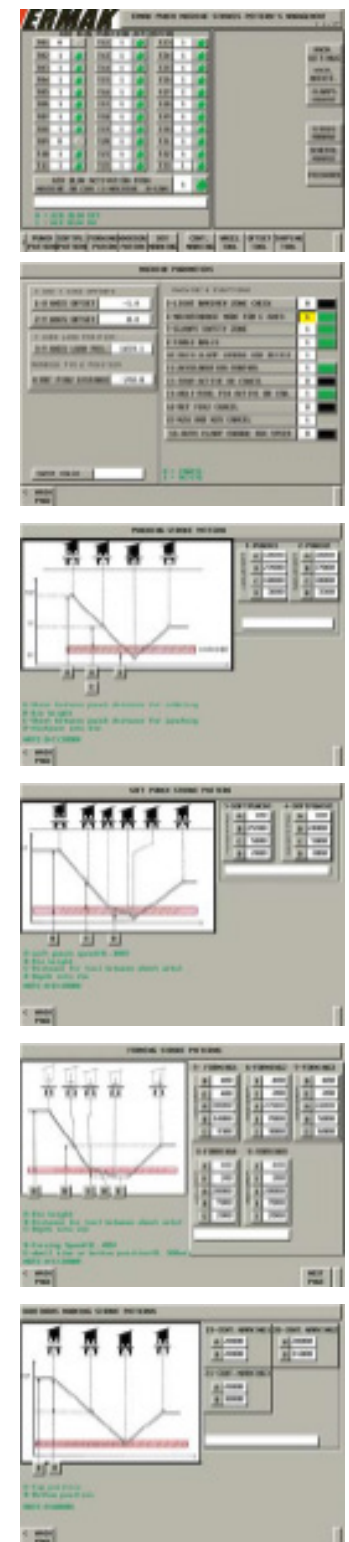
High quality forms can be achieved by adjustable stroke option, end of the punch time delay, also short length bending can be achieved by precision adjustment.

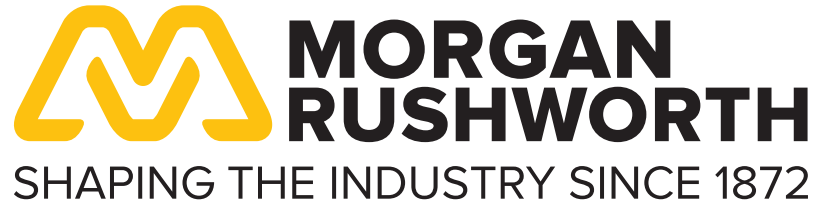
Operator can adjust punching, forming and table speeds separately through the program. All special functions of notching and forming can be easily done with wheel tools thanks to user-friendly software.



## SOFTWARE

- User-friendly software with pictograms for specialised moulding processes such as punching, soft-punch, forming, stamping, wheeled moulds, knockout tools, threading tools, and parameters for setting bottom, middle and top stroke positions, speeds, and waiting times to ensure high-quality forming
- Program restart: automatically resumes the program with all previous settings
- Functions and options for operating patented specialised wheeled moulds such as Wilson or Mate
- Functions for adjusting speed and acceleration automatically according to sheet-metal weight
- Safety-margin protection guards around clamps
- Offset values for X and Y axes
- Operation with multitool (multitool 3B or 8A)
- Part-program simulation on the graphic display
- Air-blow activation for each tool on the turret, selectable via CAM program or CNC
- Counters for total strokes and strokes per program; strokes per tool and time counters for data such as total operating time, operating time per program, part counter, and automatic machine stop at a set number of parts
- All rotating pneumatic cylinders, valves and switches on the machine can be controlled and monitored through individual pictograms (machine diagnostics)
- Part reproduction and nesting on CNC
- Single-button machine referencing
- Manual operation of all rotating parts of the machine for maintenance and servicing
- Determination of discharge point at the end of the process from CNC
- Defining program starting and ending speeds from CNC
- Long stroke ability to maintain sheet-metal surface height after forming
- Sensors, printed circuit boards and software for tool-related functions such as snagged-tool detection and delay in tool-retraction of stuck tools
- Encoding parameters in three groups (end user, service engineer and R&D)
- Maintenance and servicing menus
- Uploading part programs from computer to machine controller





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