PUNCH PRESS

ERMAKSAN
INNOVATIVE TECHNOLOGIES

ermaksan.com.tr

ETP-S

CNC SERVO TURRET
PUNCH PRESS

ETP-S 2520

Faster, More Precise, More Environment Friendly...

ERMAKSAN is one of the leading companies with its punch presses range thanks to its experience gained through long years and brand awareness. ETP-S CNC Servo Turret Punch Press quality is crowned with hydraulic-free Servo Drive construction and combines globally accepted electronic and mechanical components in one machine.

ETP-S CNC Turret Punch Press allowing various applications up to 6 mm thick sheet metals is designed to meet consumer needs for long years with its steel construction and mono-block structure.

- Minimum energy consumption
- Oil-free environmental system
- Direct drive servo punch system
- Minimum noise level
- Flexible programmable stroke structure
- Minimum maintenance cost
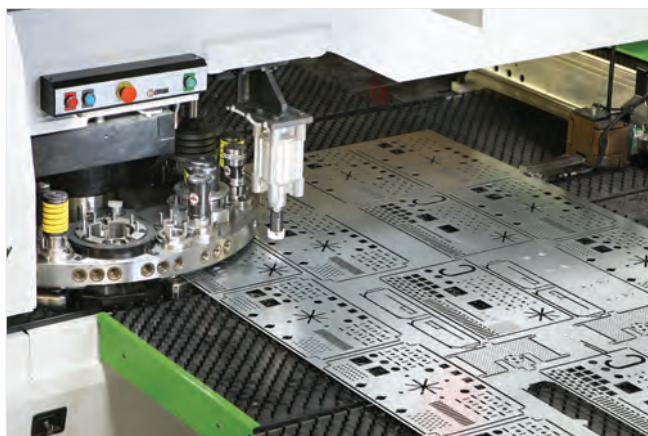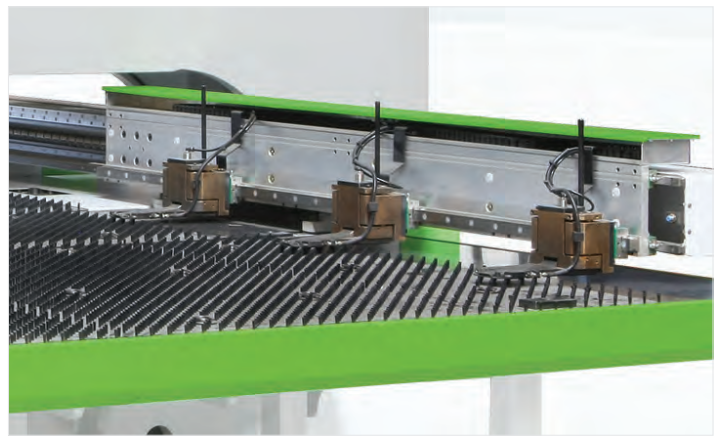
RIGID AND STRONG BODY

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.

ERMAKSAN

REDUCED DOWN-TIME RISK

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

ENVIRONMENTAL FRIENDLY

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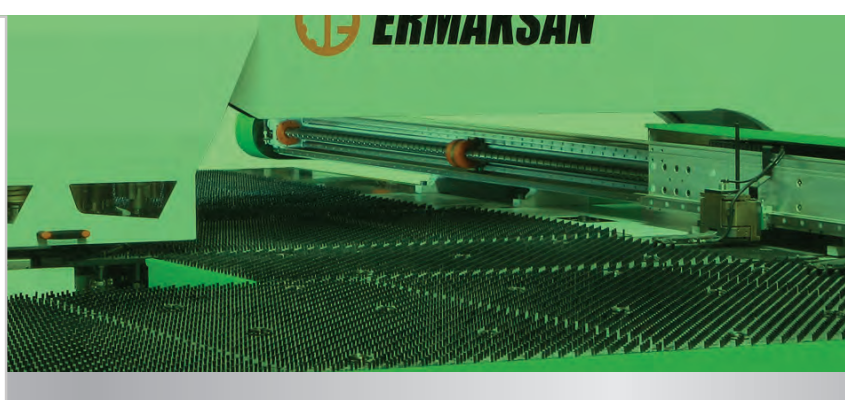
REDUCED NOISE LEVEL

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

LOW ENERGY CONSUMPTION

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

ETP-S

GENERAL SPECIFICATIONS

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 its 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
• Provides always 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 + Crank System
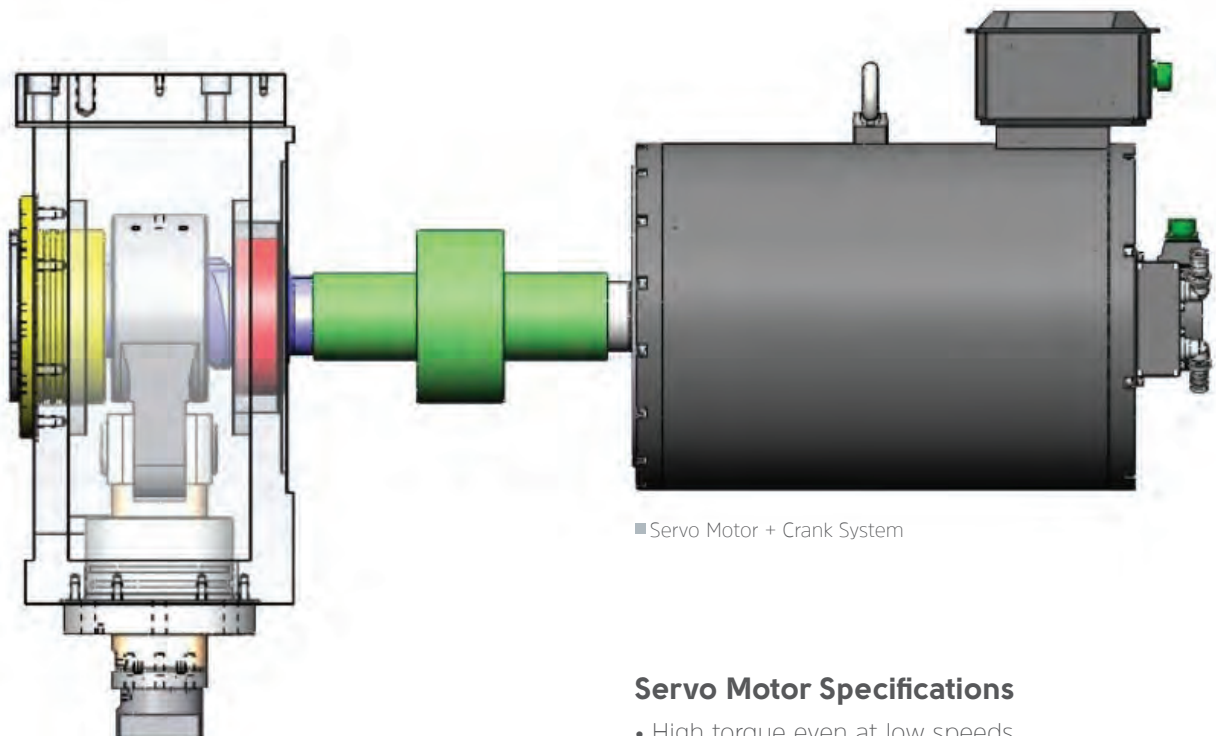
Servo Motor Specifications

• 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

(S) : Standard   (O) : Optional

TECHNICAL SPECIFICATIONS

		ETP-S 1500x3000	ETP-S 1500x2500	ETP-S 1500x2500	ETP-S 1500x2000
MAXIMUM TONNAGE	Ton (Us Tons)	30 (33)	30 (33)	20 (22)	20 (22)
MAXIMUM CAPACITY (X, Y)	mm (inc)	3000×1500 (118,1×59)	2500×1500 (98,4×59)	2500×1500 (98,4×59)	2000×1500 (78,7×59,1)
STATION QTY ON TURRET	Pieces	33	33	33	27
MAXIMUM PUNCH DIAMETER (Sheet is 1 mm (0,04") thickness) (Single tool)	mm (inc)	Ø88,9 (3,5)	Ø88,9 (3,5)	Ø88,9 (3,5)	Ø88,9 (3,5)
X AXIS TRAVEL	mm (inc)	3000 + R (118,0 + R)	2500 + R (98,4 + R)	2500 + R (98,4 + R)	2000 + R (78,7 + R)
X AXIS SPEED	m/dak (inc/sec)	80 (3,14)	80 (3,14)	80 (3,14)	120 (4,72)
Y AXIS TRAVEL	m (inc)	1500 (59,0)	1500 (59,0)	1500 (59,0)	1500 (59,1)
Y AXIS SPEED	m/dak (inc/sec)	80 (3,14)	80 (3,14)	80 (3,14)	120 (4,72)
X + Y DEPENDENT SPEED	m/dak (inc/sec)	114 (44,8)	114 (44,8)	114 (44,8)	170 (66,4)
TURRET ROTATION SPEED	Rpm	20	20	20	27
AUTO INDEX ROTATION SPEED	Rpm	65	65	65	65
MAXIMUM PUNCH STROKE For Marking 1 mm (0,04") Stroke	Stroke/min	2000	1200	1200	1500
MAXIMUM PUNCH STROKE For 1 mm step on X&Y directions	Stroke/min	900	900	900	900
MAXIMUM PUNCH STROKE For 25 mm step on X&Y directions	Stroke/min	600	600	600	350
MAX. CUTTING THICKNESS WITH FIX STATION	Mild Steel	6,35 mm (0,25 inc)	6,35 mm (0,25 inc)	6,35 mm (0,25 inc)	6,35 mm (0,25 inc)
	Stainless Steel	3 mm (0,11 inc)	3 mm (0,11 inc)	3 mm (0,11 inc)	3 mm (0,11 inc)
MAX. CUTTING THICKNESS WITH AUTO INDEX STATION	Mild Steel	4 mm (0,15 inc)	4 mm (0,15 inc)	4 mm (0,15 inc)	4 mm (0,15 inc)
	Stainless steel	2,5 mm (0,1 inc)	2,5 mm (0,1 inc)	2,5 mm (0,1 inc)	2,5 mm (0,1 inc)
REPITITION ACCURACY	mm (inc)	± 0.05 (± 0.0019)	± 0.05 (± 0.0019)	± 0.05 (± 0.0019)	± 0.05 (± 0.0019)
POSITIONING ACCURACY	mm (inc)	± 0,1 (± 0.0039)	± 0,1 (± 0.0039)	± 0,1 (± 0.0039)	± 0,1 (± 0.0039)
INDEX POSITIONING ACCURACY	°	0.01°	0.01°	0.01°	0.01°
MULTI TOOL CHANGE TIME	Sec.	3	3	3	3
MAXIMUM BURDEN CAPACITY	Kg (lbs)	225 (496,04)	200 (441,0)	200 (441,0)	125 (275,6)
AIR PRESSURE	Bar (Psi)	6 - 7 (87 - 101,5)	6 - 7 (87 - 101,5)	6 - 7 (87 - 101,5)	6 - 7 (87 - 101,5)
MAXIMUM STROKE	mm (inc)	32 (1,26)	32 (1,26)	32 (1,26)	32 (1,26)
SHEET CLAMPING (AUTOMATIC REPOSITIONING)	Pieces	4	3	3	3
SHEET CLAMPING FORCE	Kg (lbs)	1200 (2646)	1200 (2646)	1200 (2646)	1200 (2646)
POWER SUPPLY	kW (HP)	60 (80,5)	60 (80,5)	40 (53,6)	40 (53,6)
AIR SUPPLY	Liters/min (Us Gallons/min)	2,5 (0,66)	2,5 (0,66)	2,5 (0,66)	2,5 (0,66)
CONTROLLER (ERMAKSAN HMI SOFTWARE)		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 - Workpiece 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			
POSITION CONTROL		SERVO MECHANICAL PRESS 30 TN		SERVO MECHANICAL PRESS 20 TN	
LINEAR AXES	X,Y	Y1 + Y2 axis of the Ballscrew Direct Drive Fanuc Servo Motor X Axis of a rack and pinion + Reducer Fanuc Servo Motor	All axes absolute Ballscrew with Fanuc Servo Motor		
INDEX AXES		Absolute with Fanuc Servo Motor+Harmonic drive reducer			
WORKING HEIGHT	mm (inc)	950 (37,1)	950 (37,1)	950 (37,1)	950 (37,1)
TABLE TYPE		BRUSHED	BRUSHED	BRUSHED	BRUSHED
		BALL	BALL	BALL	BALL
		BRUSHED+BALL	BRUSHED+BALL	BRUSHED+BALL	BRUSHED+BALL
MACHINE LENGTH	mm (inc)	5520 (217,3)	5520 (217,3)	5520 (217,3)	5520 (217,3)
MACHINE WIDTH	mm (inc)	6660 (262,2)	5000 (196,8)	5000 (196,8)	4290 (168,9)
MACHINE HEIGHT	mm (inc)	2220 (87,4)	2220 (87,4)	2220 (87,4)	2220 (87,4)
WEIGHT	Kg (lbs)	22000 (44092)	18500 (40792)	18500 (40792)	16000 (35270)
CAD/CAM SOFTWARE		Metalix	Metalix	Metalix	Metalix
STANDART MANUAL NESTING (1 PIECES SOFT, 1 PIECES DONGLE)	License	One license, Postprocessor	One license, Postprocessor	One license, Postprocessor	One license, Postprocessor

TURRET (33 STATION)

15 Pieces A station 1/2'' Fix 1,6-12,7 mm Diameter
12 Pieces B station 1-1/4'' Fix 12,8-31,7 mm Diameter
2 Pieces C station 2'' Fix 31,8-50,8 mm Diameter
1 Pieces D station 3-1/2'' Fix 50,9-88,9 mm Diameter
3 Pieces D station 3-1/2'' Index 50,9-88,9 mm Diameter

TURRET (27 STATION)

11 Pieces A station 1/2'' Fix 1,6-12,7 mm Diameter
10 Pieces B station 1-1/4'' Fix 12,8-31,7 mm Diameter
1 Pieces C station 2'' Fix 31,8-50,8 mm Diameter
2 Pieces D station 3-1/2'' Fix 50,9-88,9 mm Diameter
2 Pieces B station 1-1/4'' Index 12,8-31,7 mm Diameter
1 Pieces C station 2" Index 31,8-50,8 mm Diameter

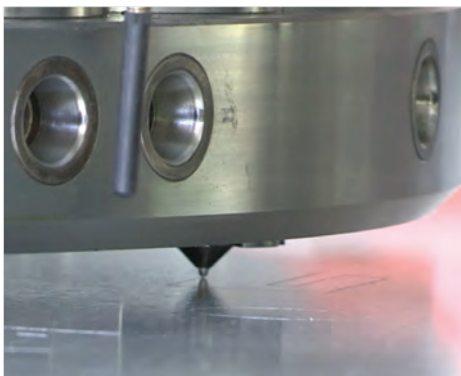* All technical specifications are subject to change without prior notice.

ETP-S

GENERAL SPECIFICATIONS

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

■ Wheeled form tools can operate without any options (S)

■ Savings for power and operation costs with stamping speed up to 1500 strokes per minute (S)

STANDARD EQUIPMENT

• 27 or 33 station turret options
• O type hardened mono-block rigid body
• Hardened housing system for each station in turret
• Fanuc CNC and dynamic brushless alpha series servo motors with highly precise absolute encoder (no reference required)
• 3 automatic re-positioning clamp system and sheet metal controlling switches (4 at machines with 3000 mm axis)
• Sheet metal controlling switches on clamps
• Aluminium clamp carrier body
• User friendly display panel and software developed by Ermaksan engineers
• Automatic tool lubrication system (Airblow)
• 1 CAD/CAM software (Metalix program)
• Water cooling system for hammering system (SERVO-ELECTRIC)
• Axis and table options in various dimensions (single processing surface): 1250x2000mm,1250x2500mm, 1500x2000mm, 1500x2500mm, 1500x3000mm
• Software to stop the machine in case of tool and clamp collision risk
• Software for using special wheeled tools and form moulds
• Scrap bin with wheels
• Sheet metal carrying ball bearings embedded into brush table
• Chained protection (safety) system around the machine
• Anti-deflection at X axis shaft (enables long service life by removing deflection and vibration on ball-screw)
Sheet Jumping switches preventing collision of undulated sheet metals to turret
• Tool stuck safety system (detecting snagged or stuck tools)
• Re-positioning cylinders moving below and above sheet metal
• Stroke length adjustment parameters for better forming sheet metal
• Machine operation and maintenance instructions

(S) : Standard   (O) : Optional
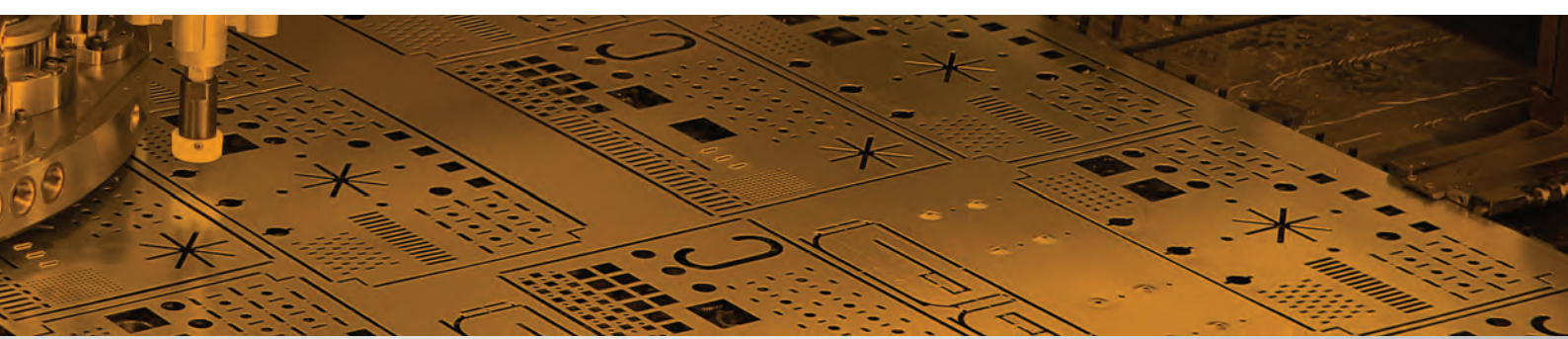
OPTIONAL EQUIPMENT

- Cutting and forming tool 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)
- Light barrier (standard for machines carrying CE mark)
- 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

■ Workpieces are manufactured without damaging and smoothly thanks to special brush system

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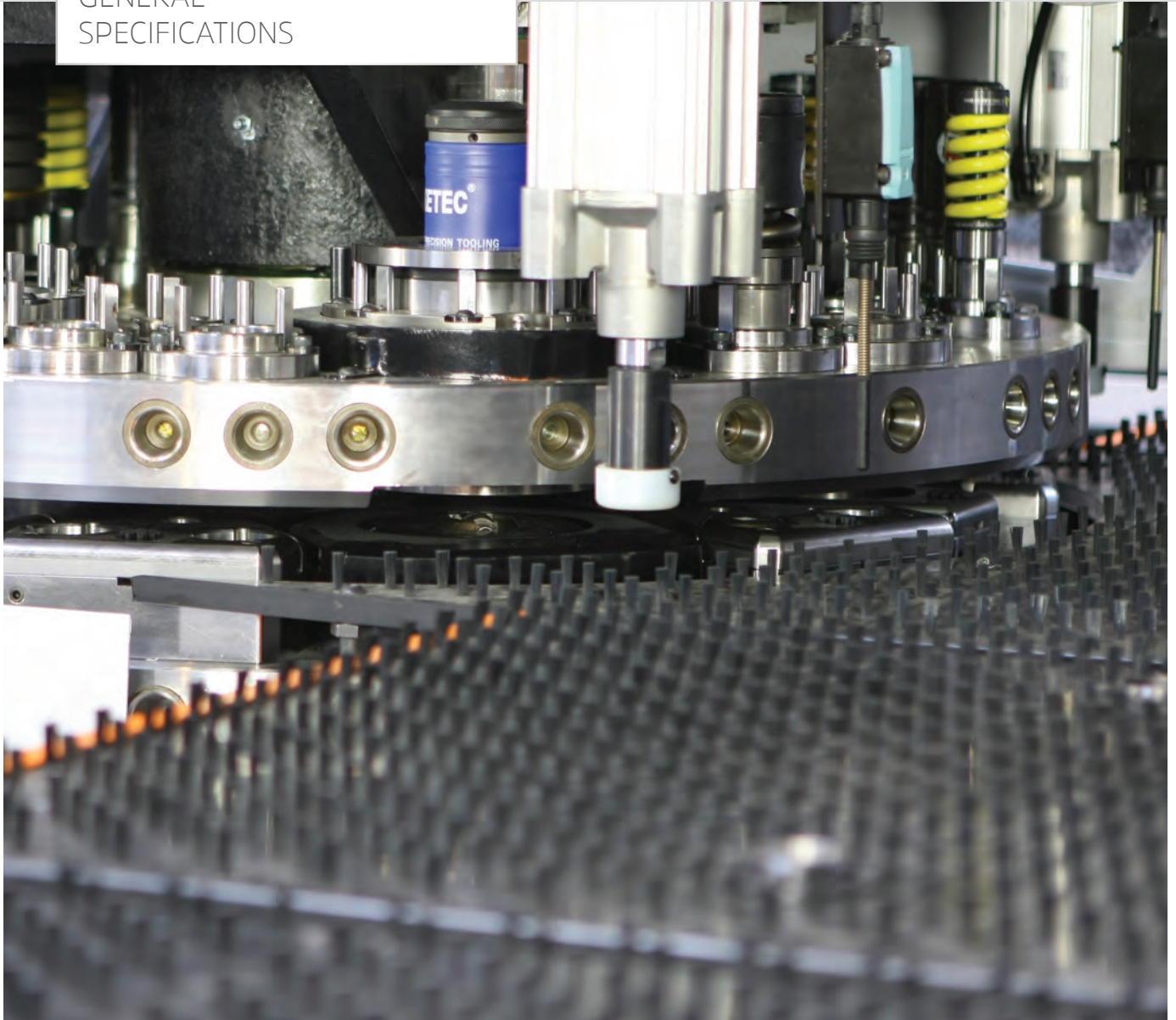

TOOL GROUNDING MACHINE

■ Tool grounding machine provides sharpening of worn out tools. High quality workpieces, maximizing efficient operating hours and extended tool service life is guaranteed.

■ Foot pedal and button panel gives the advantage to operate the machine remotely (S)

TURRET HEAD

GENERAL SPECIFICATIONS

> Thick turret system

> Operation with multi tools

> Tool holders with housing

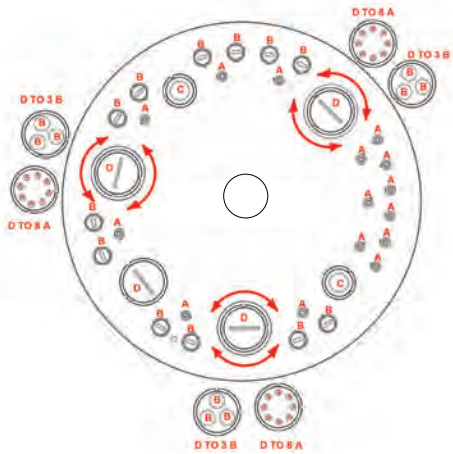> Anti-backlash reducer structure on indexes

> Direct drive driven indexes

ETP-S CNCTurret Punch series manufactured by ER-MAKSAN has two alternatives of 33 and 27 stations; in 33 stations models three of them indexable D stations and may include 8A, 3B or 1C multi-tools upon request. Therefore the tool quantity may be increased up to 54. Hardened steel coated tool adaptor system assures maintenance free long life working. Several forming operations are possible with the functional tools perforating different diameters and shapes.
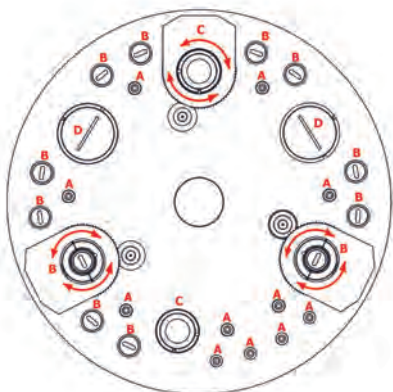
Turret 33 Station Tool Layout

• 15xA stations 1/2" fixed 1.6-12.7 mm round,
• 12xB stations 1-1/4" fixed 12.8-31.7 mm round,
• 2xC stations 2" fixed 31.8-50.8 mm round,
• 1xD station 3-1/2" fixed 50.9-88.9 mm round,
• 3xD stations 3-1/2" index 50.9-88.9 mm round,

■ Airblow allows automatic tool lubrication and extends tool service life. Pushes scraps down and avoids heating up of tools during working.

Turret 27 Station Tool Layout

• 11xA stations 1/2" fixed 1.6-12.7 mm round,
• 10xB stations 1-1/4" fixed 12.8-31.7 mm round,
• 1xC station 2" fixed 31.8-50.8 mm round,
• 2xD stations 3-1/2" fixed 50.9-88.9 mm round,
• 2xB stations 1-1/4" index 12.8-31.7 mm round,
• 1xC station 2" index 31.8-50.8 mm 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 ± 0.1 mm, repetition accuracy is ± 0.05 mm.

31i-PB

FANUC

ETP-S (Standard)

- 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 display
- Program transfer from USB or PCMCI 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
- Multitool control
- Sheet metal cutting simulation
- 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 realized 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 pictogram for any specialized moulding processes such as punch, softpunch, forming, stamping, wheeled moulds, knockout tools, threading tools, and parameters and software to setting bottom, middle and top positions of stroke, speeds and waiting times enables high quality forming.

- Program restart; automatically restarts the program resuming all the settings

- Functions and options to operate patented specialized wheeled moulds such as wheeled Wilson or Mate

- Functions adjusting speed and acceleration automatically according to sheet metal weight

- Safety margin protection guards around clamps

- Offset values for X and Y axis

- Operation with multitool (multitool 3B or 8A)

- Part program simulation on graphic display

- Air blow can be activated or cancelled for each tool on turret and this can be selected from CAM program or CNC

- Counters for total stroke and stokes for each program, strokes for each tool and time counters for data such as total operating times and operating times for each program, part counter and stopping the machine automatically at a given number of parts

- All rotating pneumatic cylinders, valves, switches on the machine can be controlled and their positions can be monitored through individual pictogram (machine diagnostic)

- Part reproduction and nesting on CNC

- Single button machine referencing

- Manual operation for all rotating parts of the machine for maintenance and servicing purposes

- Determination of discharge point at the end of process from CNC

- Defining program starting and ending speeds from CNC

- Long stroke ability considering sheet metal surface height after forming

- Sensors, printed circuit boards and software for tool related problems such as snagged tool, delay in tool retraction of stuck tool

- Encoding parameters in 3 different groups (end user, service engineer and R&D)

- Maintenance and servicing menus

- Interface for transferring part programs from computer to machine controller
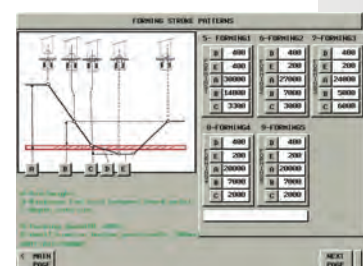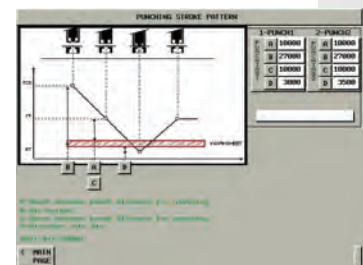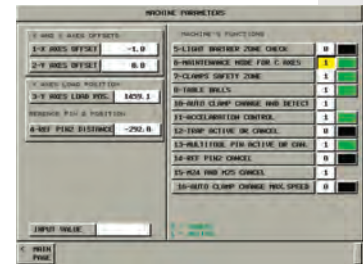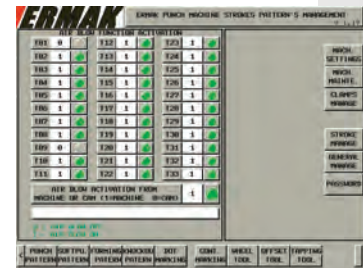
ERMAKSAN
INNOVATIVE TECHNOLOGIES

Organize San. Bölgesi Lacivert Cad. No:6 Nilüfer / Bursa / Turkey
T: +90 224 294 75 00 (pbx) **F:** +90 224 294 75 44 ermaksan.com.tr | sales@ermaksan.com.tr
ermaksanmakine   ErmaksanTR   ermaksanmachine   ErmaksanTV

② Laser R&D Centre

① Management Building and Main Factory

③ Laser Production Factory, Academy and P&D

ERMAKUSA
INNOVATIVE TECHNOLOGIES

2860 River Road, Suite:145, 60018 Des Plaines, Illinois
C: +1 630-512-7604 | ermakusa.com | info@ermakusa.com

ERMAK Deutschland GmbH
Innovative Technologien
Ridderstrasse 52 48683 Ahaus
T: +49 2561 - 86 00 400
ermakdeutschland.de   info@ermakdeutschland.de