DURMA
Forever

TP
Turret Punch | Series

Strong · Precise · Efficient · Fast · High Repeatability

Low Power Consumption

durmazlar
1956

As a total supplier for sheet metal manufacturing with almost 70 years of experience, Durma understands and recognizes the chal-lenges, requirements and expectations of the industry. We strive to satisfy the ever higher demands of our customers by continuously improving our products and processes while researching and implementing the latest technologies

In our three production plants with a total of 150.000 m^2, we dedicate 1,000 employees to delivering high quality manufacturing solutions at the best performance-to-price ratio in the market.

PRODUCTION IS MORE EFFECTIVE NOW

From the innovations developed at our Research & Development Center to the technical support given by our worldwide distributors, we all have one common mission: to be your preferred partner.

Durmazlar offers it's machines to the world markets under the Durma brand.

1

High technology, modern production lines

2

Top quality components

3

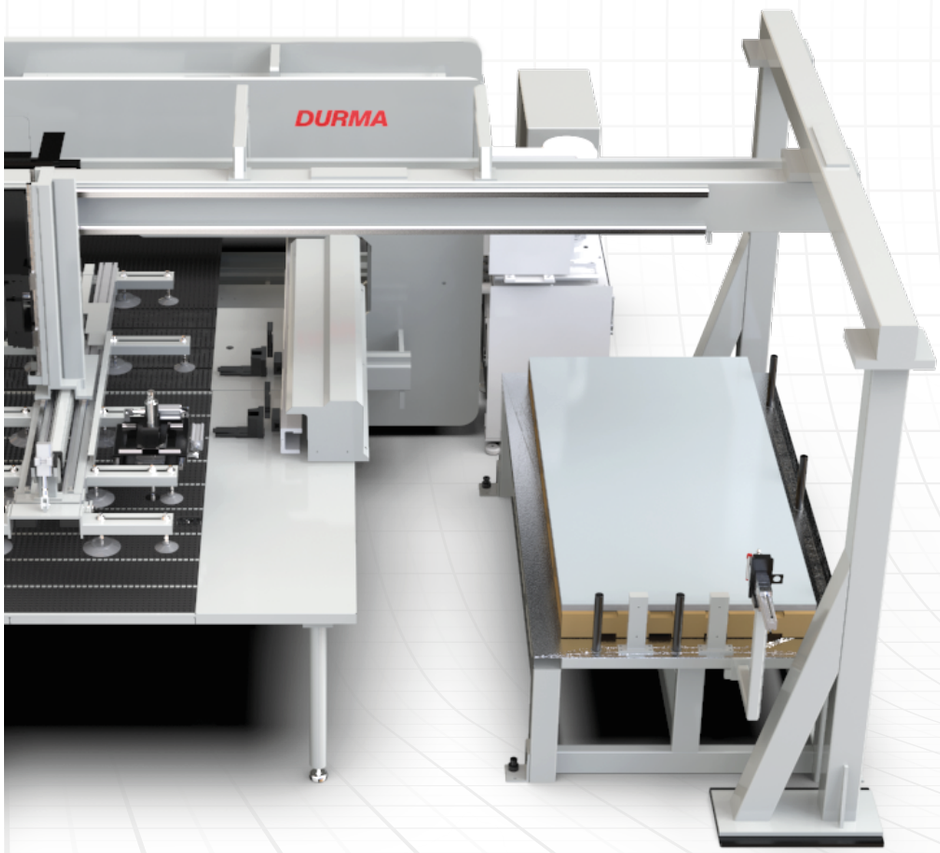
High quality machines designed in R&D Centre

TP

TP SERIES Turret Punch

- Small, medium and large format sheet processing
- Punching,forming,tapping, and wheel technology capabilities
- Stress relieved O frame
- Flexible turret configurations to elimimate tool setups
- Auto lubrication of moving parts
- Rigid guides
- One of the best controller with functionality & flexibility
- Powerful control with user friendly CAD-CAM Software
- Programmable sheet clamping system decreases set-up times and scrap ratio
- Automation can be easily integrated for efficient and lean operations while also
- Increasing operator safety and as well as decreasing opertor fatique.

Production is More Effective Now.



TP

Precise and High Speed Turret

The punching head stroke rates of 1200 strokes per minute during punching and 3200 per minute during marking. Also can be forming at punching speed. The machine control adjusts stroke travel speed and position.

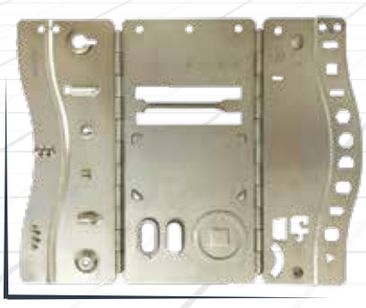
With its dynamic design, it is possible to obtain speeds of
116 m/min in X axis
80 m/min in Y axis
140 m/min simultaneously
High acceleration (1g) is possible across the whole working range without any restriction.

IIntelligent Hydraulics

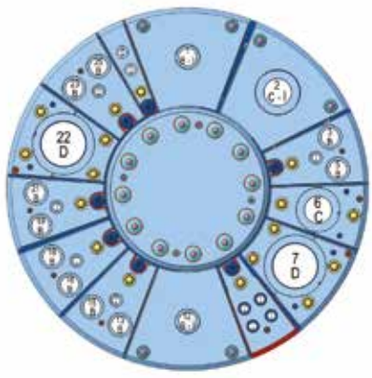
- Highly dynamic punch drive with closed loop control
- New valve technology DECV: Direct Electronic Copy Valve
- Based on proven Voith H + L copy valve
- Rugged against mechanical stress
- Simple oil filtration is sufficient
- Directly operated, no hydraulic control circuit
- Very fast step response
- Very accurate proportional response
- Predefined machine cycles with programmable stroke parameters
- Process safety by feedback monitoring
- Improved diagnostics by pressure sensors
- Optimized power consumption with load-controlled active "two-pressure-system

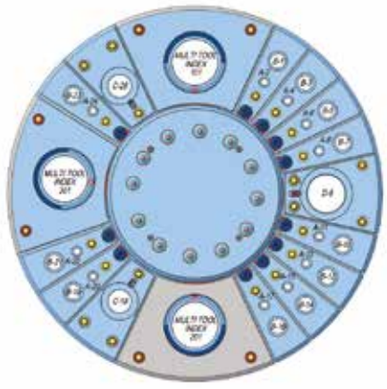
High Quality Forming

Simplifies setup of progressive forms, flanges, and embossments. With roller technology are possible not only on straight geometries but also on curved and round areas. This method is of particular interest for sectors such as air conditioning technology. (Wheel tools, tapping tools) High speed marking



Turret





Station	Sizes	TP6-9	TP-123 TPL-93 TPL 93 Servo
A - fix	0.8 -12.7 mm	11	11
B - fix	12.8 - 31.7 mm	10	11
C - fix	31.8 - 50.8 mm	1	2
D - fix	50.9 - 88.9 mm	2	1
B - index	12.8 - 31.7 mm	2	-
C- index	31.8- 50.8 mm	1	-
D - index	50.9 - 88.9 mm	-	3

3 Auto Index Stations

Provide maximum flexibility by simplifying tooling inventories and reducing tool setup time.
Tools are rotatable in 0.01° increments enabling the processing of complex shaped parts with the minimum number of tools. Tool change takes less than 3 seconds to complete total turret movement and just 0,6 seconds for single tool. Forming almost at punching speed by closed loop hydraulic by H+L Hydraulic. A variable forming position ensures that forming operations can be carried out with minimal stroke travel.The dies are positioned below the table surface, preventing sheets from being scratched or caught, therefore micro tags can be reduced to minimum for more precision parts.

TP

Reposition

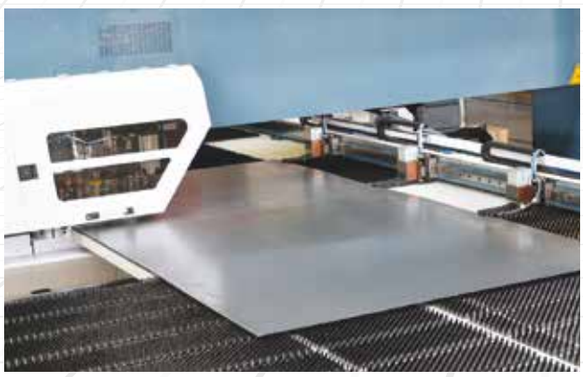
It is possible to process sheet length over table length without need to reposition.

Workchute

To evacuate parts during punching also with sorting and stacking capacity.
The parts chute, small parts up to 400 x 600 mm can be ejected directly into a parts container. An optional conveyor system. (optional)

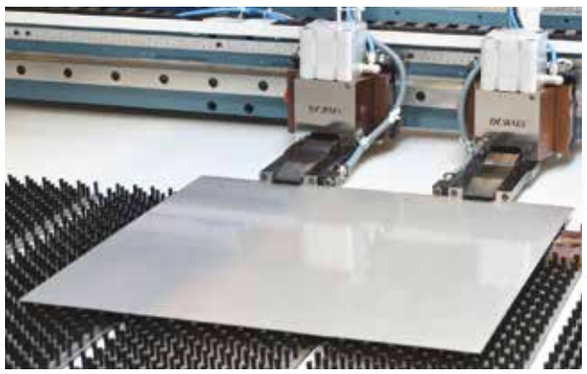
Motion and Table

A new design of X and Y axis, direct drive technology is used. This will increase the performance and eliminates any loses from belts, gears or any transmission systems.
Ball table mainly easy movement of the sheet, brush table is generally for sensitive and soft material punching for not to scratch the sheet. Both is available according to customer demands.



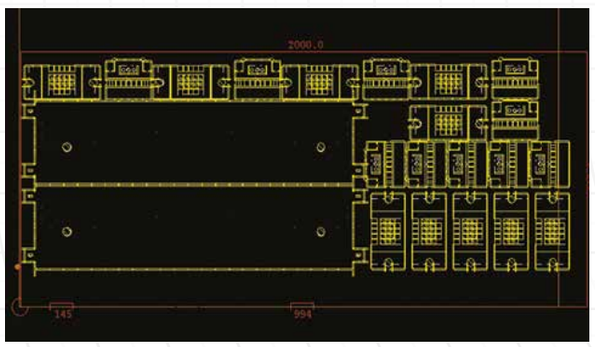
Automatic Clamps

When punching thinner material, one of the problem is to control the sheet movement at non clamping area. To eliminate this matter 3 clamps or more is available.



Cadcam Software

Programming time minimized by using fast and easy CAD-CAM software (cncKAD) metalix. By choosing the effective position of the tool automatically to use maximum area of the sheet, additional reposition and work strips is eliminated.



Control System

The Sinumerik 840 DSL control system is applied for punching. Controls and screen are mounted on a mobile control panel. The control system and other hardware are mounted in a separate cabinet. Machining can be started with just a few steps. Network (Ethernet) connection is available as well as programming on the control panel. The UPS system protects the control unit against voltage fluctuations and power cuts.

Integrated online help messages answer all questions at the point where they arise. The diagnostic concept provides visual representations of any functional faults. Remote diagnostics is available over the internet for machine controller diagnostics as a standard feature.

TP

Production is More Effective Now.

STANDARD & OPTIONAL EQUIPMENT

Standard Equipment

Command pedal
CAD-CAM software & Activator(Dongle)
Control unit, Sinumerik 840 D SL Windows 7 operating system
Remote diagnostic function
Programming on the control panel
Automatic clamp positioning.
Sheet set switches on clamps
Network, Ethernet communication.
Automatic tool lubrication
UPS for control panel
Movable scrap box
Brush table
Oil Cooler
USB Driver
Reposition on X axis
Alignment Tools for Index Stations (C+B Station) - (for TP9)
Alignment Tools for Index Stations (D Station) - (for TPL93, TP123)
Manual nesting
Light barriers for CE

Optional Equipment

Additional clamps
Table (brush&ball)
Tools, Tool holders, reducers
CAD-CAM SW Second activator (dongle)
SW for Autonesting, Wheel and Tapping tools
Sheet deformation alert switch
Turret cover for perforated sheets
Vacuum slug remover
Workchute
Automatic lubrication for the machine
Air condition for electrical box
Loading- Unloading preparation
Loading- Unloading system
Additional table
Special table
Transformator
UPS for machine (30 kVA - 10 min)
Additional allignment tool

Technical Details

TP Series	Unit	TP9	TP123	TPL93
Maximum tonnage	Ton	20**	30**	30**
Frame type	-	O frame	O frame	O frame
X axis movement	mm	2000 + R	2500 + R	3000 + R
Y axis movement with single tool	mm	1250	1250	1500
Automatic Repositioning range *	mm	10000*	10000*	10000*
Speed of Y axis	m/min	70	80	60
Speed of X axis	m/min	90	116	70
Lateral speed Y + X	m/min	114	140	120
Max. Hit rate (1mm pitch, 1mm thickness)	1/min	1100	1200	1200
Max. Hit rate (25mm pitch, 1mm thickness)	1/min	375	425	325
Max. Hit rate : Marking	1/min	2800	3200	2800
Main cylinder stroke	mm	40	40	40
Maximum punching stroke	mm	25	25	25
Max. cutting thickness (Fixed Station)	Mild Steel	6	6	6
	Stainless Steel	3	3	3
Max. cutting thickness (Index Station)	Mild Steel	3	3	3
	Stainless Steel	1,5	1,5	1,5
Positioning accuracy	mm	± 0,1	± 0,1	± 0,1
Repeatable accuracy	mm	± 0,05	± 0,05	± 0,05
Turret rotation speed	rpm	30	22	22
Auto index rotational speed	rpm	150	150	150
Max. weight of sheet	kg	100	120	200
Hard disk	Gbyte	80	80	80
RAM	Gb SDRAM	4	4	4
Network system	-	Windows 7	Windows 7	Windows 7
Interactive Flat Panel	inch	19"	19"	19"
USB	-	2	2	2
Ethernet	-	10/100	10/100	10/100
Height (H)	mm	2310	2310	2310
Width (without light barrier) (W)	mm	4200	5360	6300
Width (with light barrier)	mm	6200	7360	8300
Length (without light barrier) (L)	mm	5600	5750	6650
Length (with light barrier)	mm	6600	6800	7650
Table height	mm	940	940	940
Weight approx.	kg	11000	12960	18250
Hydraulic System Motor	kw	7.5	15	15
Oil tank	lt	180	240	180
Air pressure	bar	6	6	6
Number of Clamps	pcs.	2	3	4
Holding force of clamps	-	1000	1000	1000
Table type		Brush	Brush	Brush
Energy Consunption	Kw/h	7,5	15	15
A - fix 0.8-12.7 mm	Qty	11	11	11
B - fix 12.8-31.7 mm	pcs	10	11	11
C - fix 31.8-50.8 mm	pcs	1	2	2
D - fix 50.9-88.9 mm	pcs	2	1	1
B - indeks 12.8-31.7 mm	pcs	2	-	-
C- indeks 31.8-50.8 mm	pcs	1	-	-
D- indeks 50.9-88.9 mm	pcs	-	3	3

* : Special table must be added to the machine and the light barriers must be located the correct position. Max.weight 100 kg.

** : Please pay attention to tool's spring forces while considering about machine tonnage.

TP

Loading & Unloading System

TP CELL automates efficiently raw material loading and unloading of ready components along with skeleton. TP CELL allows mixing of automatic and manual operations as needed from production point of view.

Sheet Thickneess Measurement System

Precision measurement system that preventing multi sheet loads.

Sheet Seperation System

Effective sheet seperation system, separating sheets from each other.

Sheet Loading System

The Loading system, enables the reliable , therefore gets precision reference for 0,5 -6 mm sheet thicknesses while loading sheet metals.

Sheet Unloading System

Stacking up together in the same position of produced sheet metals due that handle up to simple carrying.

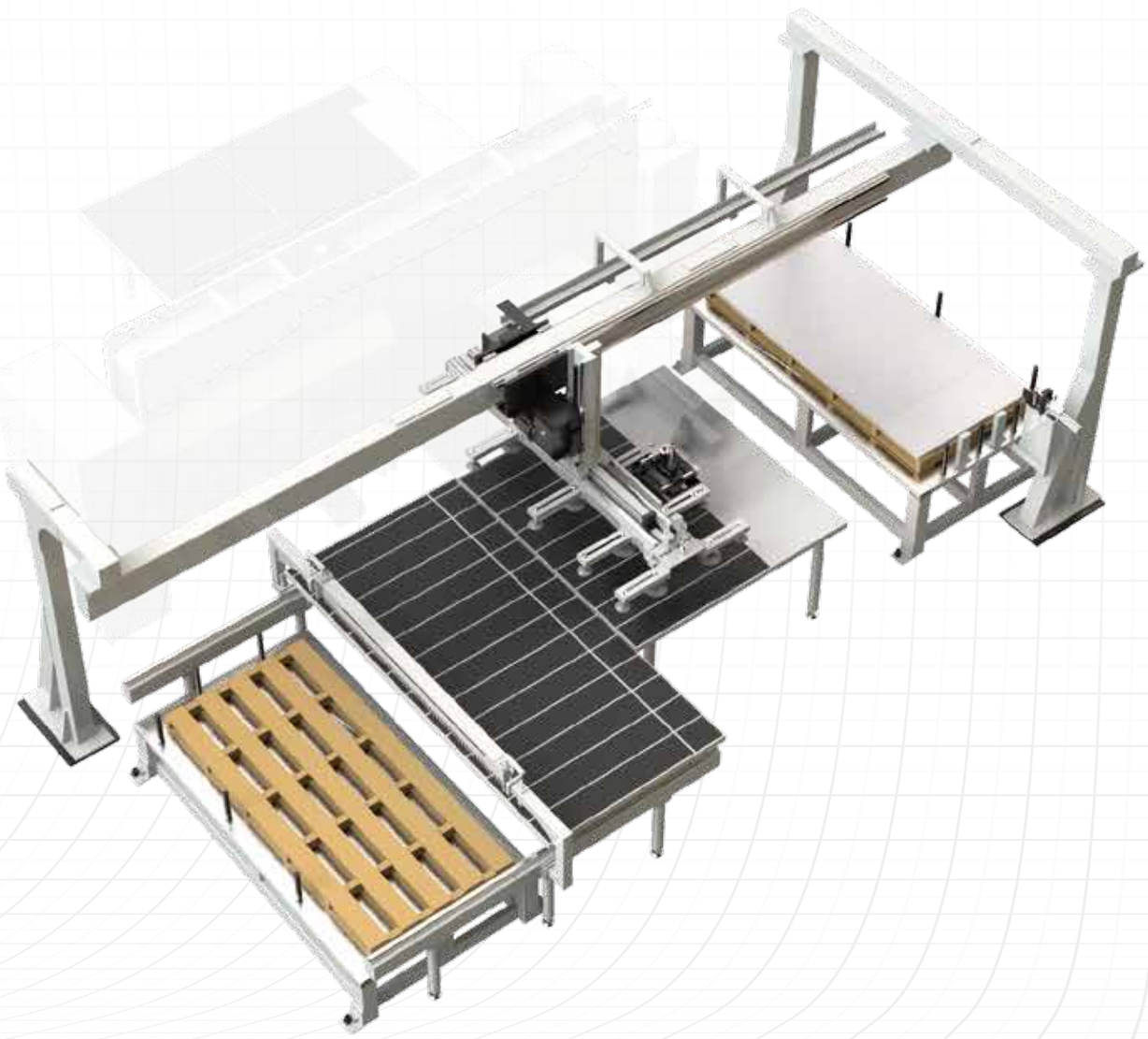
TP CELL

- **Compact layout**
- **Process efficiency**
- **Unmanned production**
- **Automatic material loading and unloading of part along with skeleton**
- **Allows full manual process with machine as with stand-alone solutions.**

Technical Specifications	Unit	TP Cell
Positioning Accuracy	mm	± 0,1
Repeatable Accuracy	mm	± 0,1
Max. Weight Of Sheet	kg	120
Air Pressure	bar	6
Cycle Time For Loading And Unloading	sec	32
Max. Size Of Sheet	mm	1250x6x2500

TP

TPL CELL



Technical Specification	Unit	TPL Cell
Positioning accuracy	mm	± 0,1
Repeatable accuracy	mm	± 0,1
Max. weight of sheet	kg	200
Air pressure	bar	6
Cycle time for loading and unloading	sec.	32
Max. size of sheet	mm	1500x6x3000

FAST ON SERVICE AND SPARE PARTS

DURMA provides the best level of service and spare parts with qualified personnel and spare parts in stock. Our experienced and professional service personnel are always ready at your service. Our professional training and application enriched courses will give you an advantage to use our machinery.

Product Groups

DURMA

Durma International
durmainternational
durmaint
durmamachines
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