

Flexible Punching Machine



Compact Punching, Nibbling
and Forming

**TRUMATIC 2000
ROTATION**

TRUMPF



Compact, Quick and Intelligent



New Concepts in Punching Technology

The TRUMATIC 2000 ROTATION rounds off the TRUMPF range of punching machines and combines standards typical of TRUMPF with an entirely new concept.

Tried-and-tested features of punching technology at TRUMPF are also characteristic of the TRUMATIC 2000 ROTATION:

- Extremely stable C frame - designed as an FEM-computed welded construction.
- Hydraulic punching head with rotational axis functioning at 3 revolutions per second. All tools can be turned through 360°.
- Linear magazine with 9 tool locations, which can accommodate up to 90 tools when using the TRUMPF Multitool®

The TRUMATIC 2000 ROTATION combines innovative punching technology with an attractive cost-benefit ratio:

- Compact dimensions
- Speed
- Accuracy
- Intelligent, open control.

Workpiece quality requirements are increasing all the time, and always go hand in hand with demand for shorter production times.

The TRUMATIC 2000 ROTATION is a "punching professional". You can use it to manufacture prototypes as well as for small and medium production runs. Short throughput times are becoming increasingly important in this respect,



and require not only very low machine downtimes but also minimal ancillary times. Quick setup and ease of operation increase your flexibility.

Speed

The speed of a machine is reflected in high stroke rates and fast tool-change times

- Mature machine technology which translates into fast hit rates, high dynamics and short tool change times.
- Ease of operation, evidenced especially by good accessibility and easy setup.

In normal punch mode – plus active clamping of the sheet metal – the TRUMATIC 2000 ROTATION achieves stroke rates of up to 900 hits a minute, and up to an amazing 2,200 during marking and rapid beading operations. The newly-developed hydraulic punching head carries out forming operations at almost the same speed as punching ones.



Cleverly-Designed Tool System

Fast parts production requires not only a quick machine but also quick production readiness. A cleverly-designed tool system combined with an easily set-up linear magazine form a decisive basis for flexible reactions. TRUMPF tools are accommodated in cartridges. The tools are readied away from the machine while production is running.

The setup procedure itself involves just one hand movement. The linear arrangement of the tools makes everything clear and uncluttered, and tools are in view at all times. Each magazine station inside the linear magazine can be loaded with any tool type of maximum diameter.

Rotation of all tools, combined with the use of Multitool, keeps tool inventory to a minimum.



Forming Technology Reduces Number of Production Stages

Punching technology is always utilized wherever a lot of single holes and formed parts need to be machined at high speed. Reduction in the number of production stages is a significant aim here.

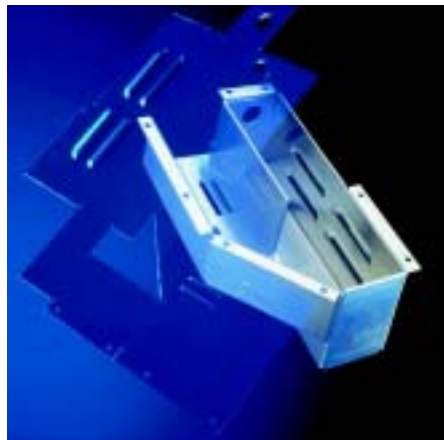
The “produced quality” of the sheet metal parts is proof of the advantages of the TRUMATIC 2000 ROTATION:

- high accuracy
- even surface
- scratch and burr-free.

The machine-technological prerequisites for this high part quality are:

- extreme rigidity in the throat of the machine
- short transverse rail
- long ram guide and precision alignment between punch and die
- digital drive technology
- programmable, hydraulic clamping down of the sheet
- standard equipment with brush tables.

Machining thin sheet metal is the kind of challenge the TRUMATIC 2000 ROTATION really enjoys.



Easy Operation and Programming

Open controls guarantee ease of operation. The comfortable operator interface is a TRUMPF development, and focuses on the operator's activities. Integrated online help answers questions the moment they arise. Naturally there is also a sophisticated diagnosis concept plus teleservice.

ToPs 2000 is a programming system for workshops and runs straight on the control. It comes as standard with the machine and forms the ideal complement to the ToPs 300 programming system. Simple networking of the systems guarantees data flow during NC programming.

Technical Data

Working area (X x Y)	1270 x 1270 mm (extendable via repositioning)
Specifications	
Max. sheet thickness	6.4 mm
Max. punching tonnage	180 kN
Max. workpiece weight	75 kg
Maximum Speeds	
X axis	90 m/min
Y axis	60 m/min
simultaneous stroke rate	108 m/min
punching pitch 1mm	900 1/min
pitch 25mm	420 1/min
stroke rate marking/rapid beading	2200 1/min
C axis	3 revolutions/sec
Tools	
Linear magazine	9 tool stations
No. available with TRUMPF Multitool®	9 – 90 tools
Rotation of all tools	360°
Tool change time (approx.)	0.9 s – 3.5 s
Max. punching diameter	
Single stroke	76 mm
Standard Multicut®	200 mm
Programmable Small Parts Chute	
Max. part size	200 x 200 mm, can be sorted into 2 containers
Accuracy¹	
Positioning accuracy	± 0.1 mm
Average repeatability	± 0.03 mm
Drive	
X/Y/C	Digital, maintenance-free drives
Punching head	Hydraulic, with closed loop control system
TRUMPF Control	Basis Bosch Typ 3
Main memory	64 MB
Color monitor	10.4"
Hard disk	200 MB for NC-programs
Floppy drive	3.5"
Platform	PC Pentium with Windows NT
Workshop programming	ToPs 2000
Consumption values	
Electrical energy (approx.)	8 kW
Compressed air	3 Nm ³ /h
Dimensions and weight (approx.)²	
Space requirement (including light barriers)	5100 x 5800 mm
Height	2070 mm
Weight	8000 kg

¹ Precision achieved on the workpiece depends on the sheet thickness, sheet size, the shape and position of the workpiece within the working area, and workpiece geometry. According to VDI/DGQ 3441.

Measuring length 1 meter.

² Approximate values. The exact values can be found in each specific installation plan.

TRUMPF is certified according to German standard DIN ISO 9001

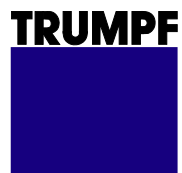
TRUMPF



TRUMPF GmbH + Co. KG
P.O. Box
D-71252 Ditzingen

Phone: +49 (0)7156-303-0
Fax: +49 (0)7156-30 33 09
E-mail: info@de.trumpf.com
Internet: <http://www.trumpf.com>

TRUMPF is certified according to German standard DIN ISO 9001



TRUMPF Ltd.
President Way
Airport Executive Park
Luton, Bedfordshire LU2 9NL
England

Phone: (01582) 725335
Fax: (01582) 399 260
E-mail: info@trumpf.com
Internet: <http://www.trumpf.com>