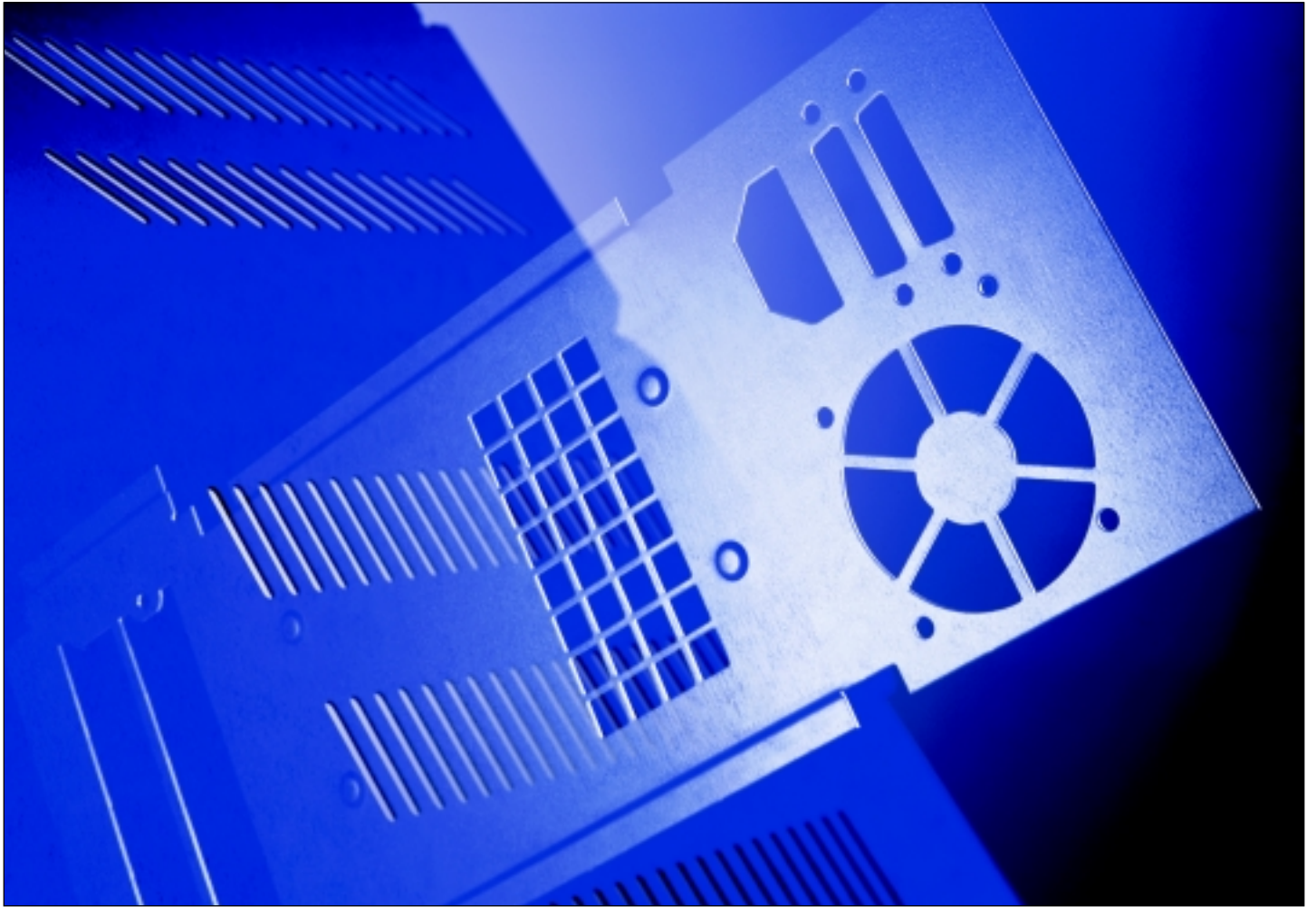


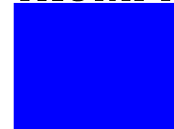
TRUMPF CNC-Sheet Metal Machining Centre

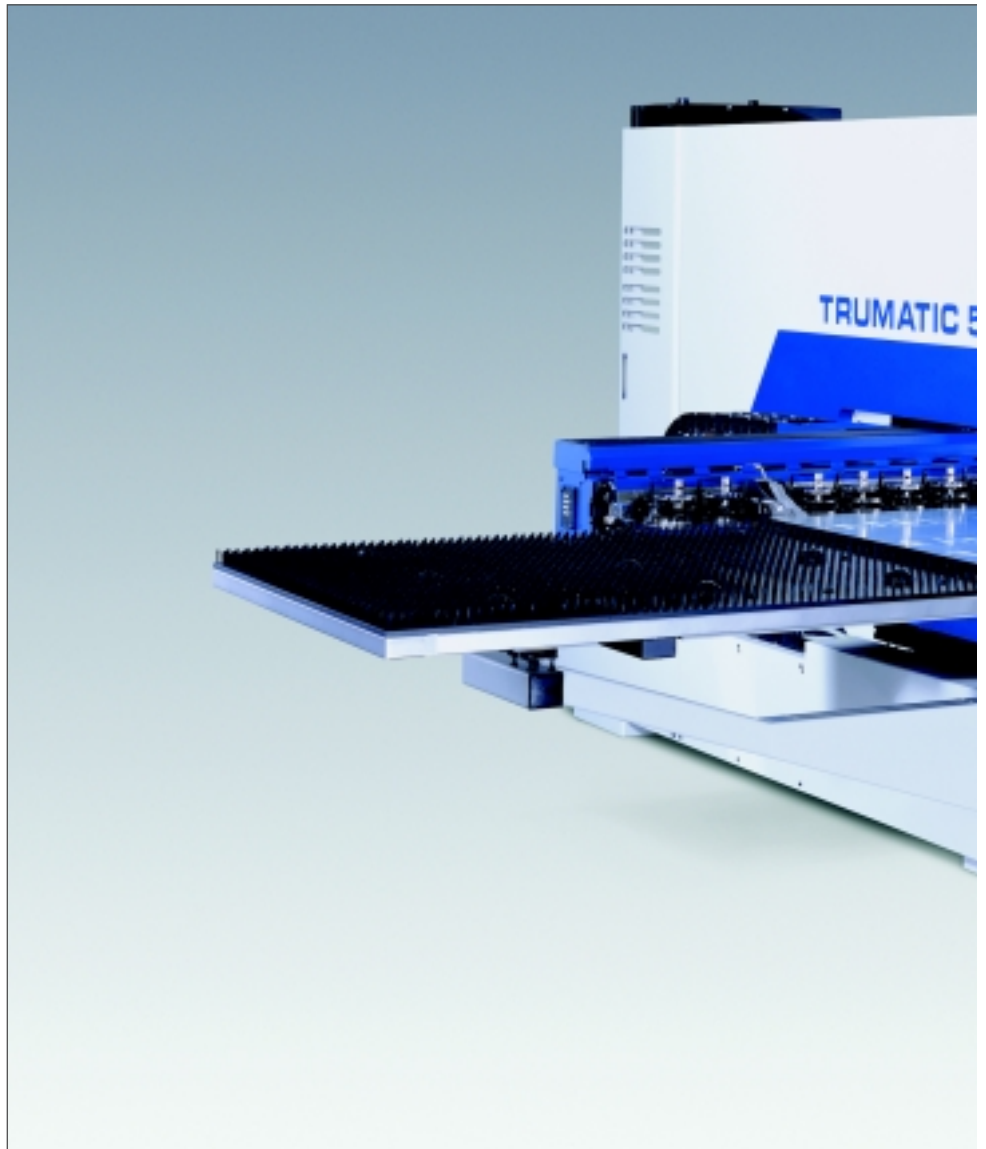


Punching, Nibbling
and Forming
with Rotation
of all Tools

**TRUMATIC 500
ROTATION**

TRUMPF





Today's markets demand a variety of new products that require short development cycles and typically have a limited product life. The emergence of such markets has led to the development of new production strategies. One such strategy is Just-In-Time manufacturing – the economic production of small batch sizes.

The challenge of manufacturing today is to produce with a combination of high productivity and flexibility. More and more engineers are finding that a CNC sheet metal machining centre for punching, with contouring and forming abilities, enables them to do this economically. The TRUMATIC 500 ROTATION meets these challenges.

In every respect the TRUMATIC 500 ROTATION is today's machine, offering the fastest production times, with short set-up times and high component quality. Its wide range of applications makes it the ideal machine for the present and the future.



TRUMATIC 500 ROTATION: Harmony of Function and Design

A new design concept has produced a more compact, yet even sturdier C frame.

Through its simplicity, the integration of workpiece positioning and tool changing within a coordinate system of low mass and high rigidity yields considerable operating and service benefits.

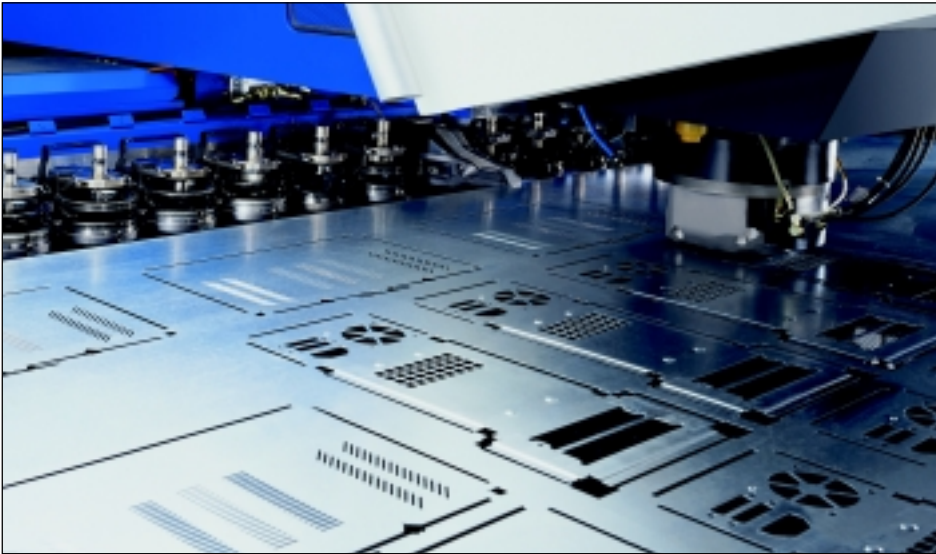
A.C. servo-motors and a rack and pinion drive system produce the highest operating speed and highest component accuracy, combined with the lowest maintenance requirements and the longest precision life.

Through programmable control of both punching speed and stroke length, the intelligent electro-hydraulic ram within the punching head has been developed by TRUMPF into a virtual 3rd axis.

18 tool stations are available for economical production.

Head rotation offers yet another axis of operation, allowing the rotation of all tools, including forming tools and Multitools®. Each tool set can be exchanged within seconds.

The graphic programmable 32 bit control, TRUMAGRAPH CC 220 S, is fast and powerful and manages all operating and service functions of the machine.

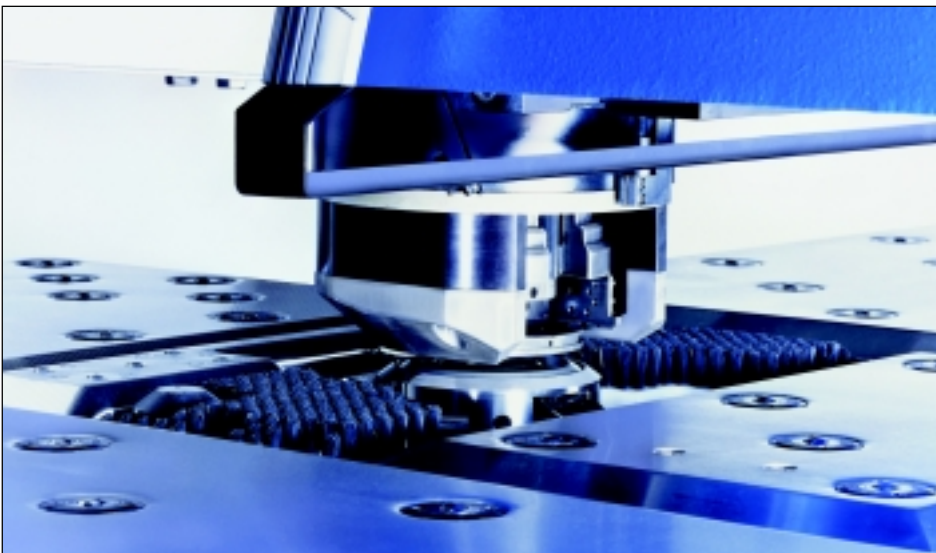


Intelligent head

- Clutch and brake-free electro-hydraulic ram drive
- Automatically minimised punch force
- Programmable stroke speed
- Automatic tool change and hydraulic tool clamping
- Maximum tool support and tool life
- Automatic tool length compensation
- Greatest process safety

TRUMPF Softpunch® for quietest operation

- Program-controlled ramp function
- Tools can be activated individually



360° Rotation of *all* tools *with no tool size limitation*

- Reduced tooling costs
- Reduced setting time
- Higher productivity
- Greater flexibility
- Greater economy



Easy to set linear tool magazine

- 18 magazine locations for any mix of tools and Multitool®
- Max. 76.2 mm diameter in *all* locations
- Free choice of tool location
- Cartridge change simple, positive and safe
- Quick clamp setting and precise location
- Minimum clamp dead range
- Fastest set-up time
- Easy access for efficient operation
- Automatic verification of tool and clamp position

TRUMPF punching tools – a versatile system

TRUMPF Multitool®

- 2, 4, 6, 12 tools within *one* tool
- Higher tool storage capacity
- Reduced tool change time
- Fewer tool sets

TRUMPF Forming tools

- Rigid hydraulic tool clamping
- Programmable downward feed
- Multiple uses (tapping, louvers, rimming etc.)

TRUMPF parting and Multicut tool

- Faster profiling and higher quality through rotation

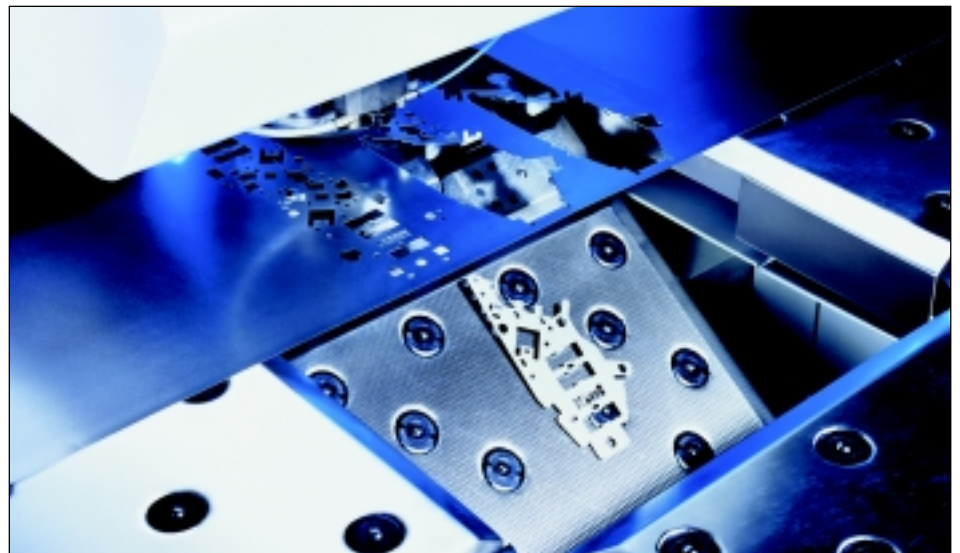
TRUMPF Whispertool®

- Environmentally friendly through reduced noise levels



Automatic removal of small parts and scrap

- Pneumatic chute 500 mm x 500 mm
- Chute for small parts max. 80 mm x 50 mm
- Program-controlled removal of small parts and scrap
- Direct discharge into bins
- Vacuum assisted punch slug removal



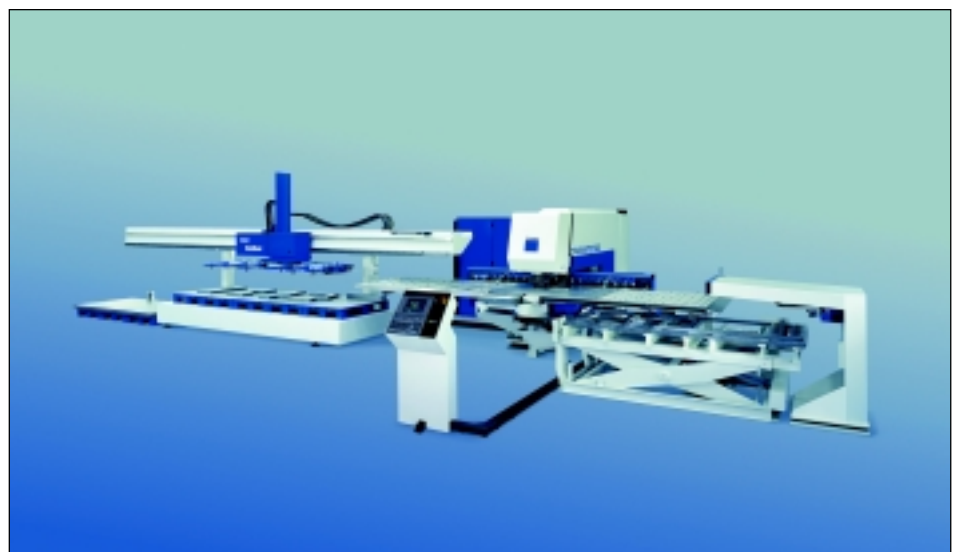
TRUMALIFT Sheetmaster® – efficient automation

Loading

- Controlled sheet separation with double sheet detection
- Sensor controlled machine location

Unloading

- Programmed stacking or dropping to defined location while production is running
- Safe skeleton removal
- Simultaneous machine operation
- Compact layout
- Turns a machine into a Flexible Cell, with linkage to a material storage system





**High performance with PC panel:
TRUMPF CNC
TRUMAGRAPH CC 220 S**

- Fast work cycle times through short block cycle times
- Larger standard working memory
- Larger part program memory
- Parallel programming through integrated graphics eg. for small batches and prototypes
- User friendly operation
- Teleservice for fast and reliable diagnostic support
- Integrated disk drive
- Low-radiation TFT color screen



The right CAD/CAM System for each application

- ToPs 300 –
Technology oriented Programming system**
- Drawings can be created with easy-to-use geometry editor or CAD data imported from alternative systems
 - Flexible parts programming
 - Automatic processing definition of parts
 - Runs on personal computers

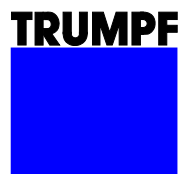
Technical Data	TRUMATIC 500R-1300	TRUMATIC 500R-1600
Working range (X x Y) before repositioning with full table support	2535 x 1280 mm	3085 x 1650 mm
Performance		
Max. punching force	220 kN	220 kN
Max. sheet thickness	8 mm	8 mm
Max. workpiece weight	200 kg	230 kg
Max. punching diameter	76.2 mm	76.2 mm
Speeds		
Max. positioning speed parallel		
X axis	90 m/min	90 m/min
Y axis	60 m/min	60 m/min
simultaneous	108 m/min	108 m/min
C axis rotation	360°/s fully rotating	360°/s fully rotating
Max. stroke rate ¹		
punching 1 mm pitch	900 1/min	780 1/min
punching 25 mm pitch	445 1/min	355 1/min
marking	1700 1/min	1700 1/min
Type of drive		
X/Y/C axes	Maintenance free AC motors	Maintenance free AC motors
Punching head	Hydraulic drive	Hydraulic drive
Accuracy²		
Positioning accuracy	±0.1 mm	±0.1 mm
Repeatability	±0.03 mm	±0.03 mm
Automatic tool changer		
Linear magazine ²	18 tools with 2 clamps	18 tools with 3 clamps
No. of tools if using Multitool®	up to 108 tools with 2 clamps	up to 108 tools with 3 clamps
Tool changing time approx.	1.5 - 5 s	1.5 - 5 s
Programmable Chutes		
For punch parts max.	500 x 500 mm	500 x 500 mm
TRUMPF Control		
NC program memory	Bosch CC 220 S	Bosch CC 220 S
TFT color screen	2 MB	2 MB
Disk drive	10.4"	10.4"
Platform	3.5"	3.5"
Shopfloor programming	PC Pentium with Windows NT	PC Pentium with Windows NT
	TRUMAGRAPH	TRUMAGRAPH
Power requirements		
Electrical	17 kVA	17 kVA
Pneumatic	7 bar	7 bar
Dimensions and weights (approx.)³		
Space requirements with		
Light curtain-safety system	6900 x 5800 mm	7900 x 6300 mm
Height	2200 mm	2200 mm
Weight	11000 kg	13000 kg

1 Different technical data applicable with option »Retractable Clamps«.

2 The accuracy that can be achieved in the workpiece is dependent on the sheet thickness, the sheet size, the location of the workpiece within the working area and on the tool geometry. According to VDI/DGQ 3441 – length of measurement 1 m.

3 Approximate values. Precise data can be taken from the valid installation plan.

TRUMPF is certified in accordance with DIN ISO 9001



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