

A detailed close-up photograph of a TRUMPF TruPunch laser cutting machine. The image shows the intricate mechanical components of the laser head, including various sensors, guides, and the cutting nozzle, positioned above a metal worktable. The worktable features several rectangular cutouts. The lighting is bright and focused, highlighting the precision engineering of the machine. The overall color palette is industrial, with shades of grey, silver, and blue.

TruPunch:

A new standard
in punching
efficiency.

Uniquely efficient.

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TruPunch machines from TRUMPF offer you the flexibility to process a uniquely diverse range of parts. The many and varied applications stretch from simple to complex sheet metal parts with serial forming and excellent surface and edge quality. This means you can process a multitude of different parts entirely on one machine.

TruPunch machines are extremely economical and efficient. In particular, they use energy and material resources very sparingly. Our portfolio would not be complete without a wide choice of high-quality punching tools made by TRUMPF.

TruPunch: Benefits at a glance.

- 1 Resource-efficient processing.
- 2 Punching, forming and deburring (on one machine).
- 3 Full tool flexibility.
- 4 Quality to suit every requirement.
- 5 Custom automation.



TruPunch 1000

Economical entry-level machine. This versatile machine offers an ideal start to punching. It is particularly easy to operate, offers good value for money, and takes up little space.



TruPunch 3000

Resource-efficient universal machine. The world's first punching machine which does not leave a scrap skeleton, the TruPunch 3000 has material savings of 10% on average. Its clever automation makes it extremely user-friendly.



TruPunch 5000

Productive high-end machine. The TruPunch 5000 is the market leader in productivity and part quality. Its total forming ability and custom automation guarantee its suitability for the broadest range of applications. This machine also has no scrap skeleton.

efficiency+

We strive to work cost-efficiently and responsibly through the sensible use of resources.

- Skeleton-free punching increases your sheet utilization by 10% on average and reduces material costs accordingly.
- With the suiting hydraulic or electric punching head, each TruPunch machine is always extremely energy-efficient.
- Their low use of compressed air, materials and electricity contributes to the all-around conservation of resources.

Learn more about efficiency+ at www.trumpf.com/en/efficiencyplus

Why TruPunch is impressive.

Quality standard contours and forming with the punching head.



Punch in three dimensions. The punching head is suitable for holes as well as for three-dimensional contours such as fishplates or threads. You can process your parts entirely on one machine, with no need for downstream work steps.

- Flexible and cost-efficient thanks to 360° tool rotation.
- Versatile forming.
- High-speed processing.
- First-class punch contours.
- Fast changeover times.

Both stable and accessible.

The design principle of all TruPunch machines is an open C frame. This means the machines and workpieces are accessible from three sides. There is plenty of room for loading and unloading – whether by hand or automatically. The machine's high level of stability also guarantees accuracy and scratch-free workpieces.



- Good access to the machine from three sides.
- High accuracy.
- Scratch-free workpieces.
- Fast unloading with parts chute.
- Modular automation.

Flexible punching tools.

TRUMPF has been supplying top-quality original punching tools for 40 years. We have the widest range of tools on the market.

- **Punching tools:** Whatever geometry or separation cut you are processing, TRUMPF can provide you with the tool you need.
- **Forming tools:** Sheet metal can be processed into innumerable shapes through plastic deformation. TRUMPF forming tools enable complete processing of the sheet on a single machine. With the new size 5 tools, forms of even larger dimensions can be produced with standard tools.
- **Roller tools:** Roller technology makes forming and cutting operations even faster and 360° rotation makes it possible to fabricate just about any contour.
- **Embossing and marking tools:** These special tools enable you to inscribe serial numbers, the year of manufacture, your corporate logo and other markings quickly and cost-efficiently.
- **Tools for special purposes:** We can also supply tailor-made tools for special operations, such as deburring tools capable of producing high-quality edges. Our specialists can also develop customized punching tools according to your precise specifications. Thanks to our in-house manufacturing facilities and intensive testing, top-notch results are guaranteed. Custom punching tools can be delivered within a matter of days.
- **Tooling accessories:** Tooling accessories make setup and maintenance easier and prolong the service life of your tools. Making sure your punching tools are precisely set and regularly reground also plays an essential role in achieving optimum results.
- **Integrated tool management:** The system helps you to keep track of your tools at all times, enabling you to optimize setup processes and tool deployment.

For more information on punching tools and accessories, please visit www.trumpf-machines.com/en/services

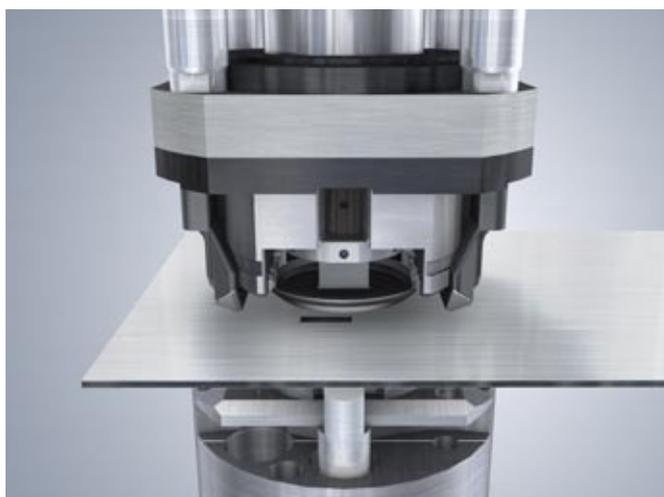


Roller deburring tool



Deburring MultiTool

Intelligent punching.



The wear-free ram guidance system combined with the mechanism that actively retracts the die ensures accurate results and maximum process reliability.



Thanks to 360° rotation, you can punch at whatever angle you like.

Versatile and cost-efficient thanks to 360° tool rotation.

Tools fit snugly into the punching head. One of the biggest advantages of the head design is that it can rotate any tool to the angle that is required, regardless of the tool's shape, size or position in the magazine.

Benefits of 360° rotation at a glance:

- Ability to position tools at any angle.
- Easily programmed.
- More efficient use of materials thanks to versatile sheet layout.
- Fast changeover times.
- Low tool costs.

Flexible without limits.

► Skeleton-free processing

The scrap skeleton that remains on the machine in a conventional production strategy is time-consuming to remove. In skeleton-free processing, by contrast, the sheet is totally pierced, leaving not even an edge strip behind. This offers multiple advantages.

Process-reliable

- Finished parts can be unloaded reliably.
- Small parts are unloaded reliably even when the part chute is open.
- Residual pieces of sheet metal are automatically cut up and removed.

Material-efficient

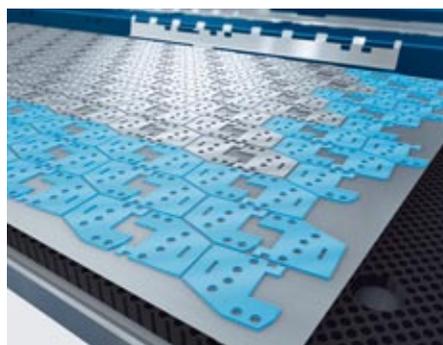
- Common cuts ensure optimal material usage.
- An average of 10% higher sheet utilization reduces material costs.
- Smaller bits of residual material simplify logistics and yield higher scrap prices.

Operator-friendly

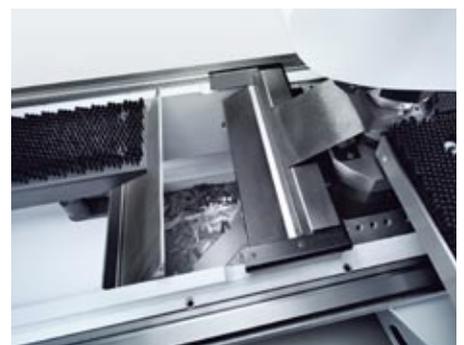
- Working without a scrap skeleton increases safety.
- Residual pieces of sheet metal can be sorted by material.
- The sorter routes good parts and scrap to specific containers.



If necessary, the machine can turn your parts before unloading.



Material-efficient thanks to skeleton-free processing.



The sorter separates scrap from good parts.

TruPunch 1000



Shop floor programming on TruPunch 1000.

TruPunch 1000:
Benefits at a glance.

- 1 The most versatile machine in its class.
- 2 Intuitive user interface.
- 3 Low operating costs, even at low capacity.
- 4 Simple online programming.
- 5 Minimal footprint.



Tools and technologies used: Punching, roller deburring, forming: thread with upward and downward extrusion, upward thread punching, cup, clip and hinge, bridges, MultiBend, embossing.



Technologies used: roller technology.

Economical entry-level machine.

The TruPunch 1000 is the ideal punching machine for first-time professional users. It takes up a minimum of space and is very easy to operate, and is yet capable of handling the full range of basic applications on medium-format sheet metal stock. As with other TRUMPF punching machines, forming can be carried out in a single operation without repositioning. The TruPunch 1000 enables you to respond quickly and with flexibility to low-volume orders and batch sizes.

Simple punched parts can be programmed online in a few short steps with the help of the TruTops Punch Basic software. The necessary data are input via a user-friendly touch screen with intuitive menu prompting. The full version of TruTops Punch can be called up on request if required to process more complex parts.





Technical data:		
	TruPunch 1000 small format	TruPunch 1000 medium format
Work area (X x Y)	2050 x 1250 mm	2500 x 1250 mm
Capacity		
Max. sheet thickness	6.4 mm	6.4 mm
Max. punching force	165 kN	165 kN
Max. clamping force	10 kN	10 kN
Max. workpiece weight	150 kg	150 kg
Speeds		
X axis	80 m/min	80 m/min
Y axis	55 m/min	55 m/min
Simultaneous (X and Y)	97 m/min	97 m/min
C axis	180 rpm	180 rpm
Max. stroke rate when punching (E = 1 mm)	600 1/min	600 1/min
Max. stroke rate when marking	1300 1/min	1300 1/min
Max. acceleration^[1]		
X axis	10 m/s ²	10 m/s ²
Y axis	5 m/s ²	5 m/s ²
C axis	175 rad/s ²	175 rad/s ²
Tools		
Linear magazine	15 tools with 2 clamps (optional 3 rd clamp)	18 tools with 2 clamps (optional 3 rd clamp)
No. when using MultiTool	15 – 150	18 – 180
MultiTool	5/10 station	5/10 station
Tool change time		
Single tool	4.4 s	4.4 s
MultiTool	2.2 s	2.2 s
Accuracy^[2]		
Positioning accuracy Pa	± 0.1 mm	± 0.1 mm
Repeatability Ps	± 0.03 mm	± 0.03 mm
TRUMPF CNC control		
	Bosch PNC	Bosch PNC
Programmable parts chute		
Max. part size when using fixed chute	180 x 150 mm	180 x 150 mm
Max. part size when using part slider	460 x 500 mm	460 x 500 mm
Space requirements^[3]		
Including safety barriers	6000 x 5825 mm	6550 x 5837 mm
Power consumption		
Average power consumption	7 kW	7 kW
In standby mode	0.7 kW	0.7 kW

^[1] Up to 100 kg sheet weight.

^[2] Achievable workpiece accuracy depends on various factors including workpiece type, its pretreatment, sheet size and position in the work area. In accordance with VDI/DGQ 3441. Measuring length 1 m.

^[3] Approximate values. Exact specifications can be found in the most recent installation plan.

TruPunch 3000

Resource-efficient universal machine.

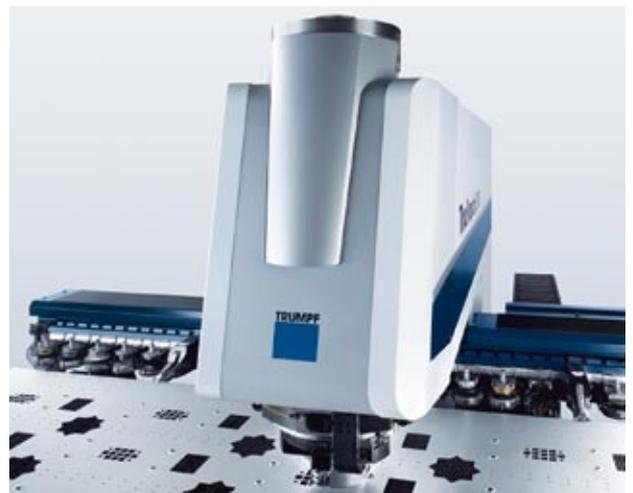
TRUMPF is the first manufacturer in the world to offer a punching machine designed for skeleton-free processing: the TruPunch 3000. This innovation reduces material requirements by an average of 10%, increases process reliability and is extremely user-friendly. With its electric punching head and an average power consumption of 5.9 kW, it is a very energy-efficient machine.

Scratch-free material handling

The adjustable die height enables you to process sheet thicknesses up to 6.4 mm and obtain top-quality, virtually scratch-free results. For even more convenience, this compact machine can be equipped with an extensive range of automation options designed to make ideal use of the space available.

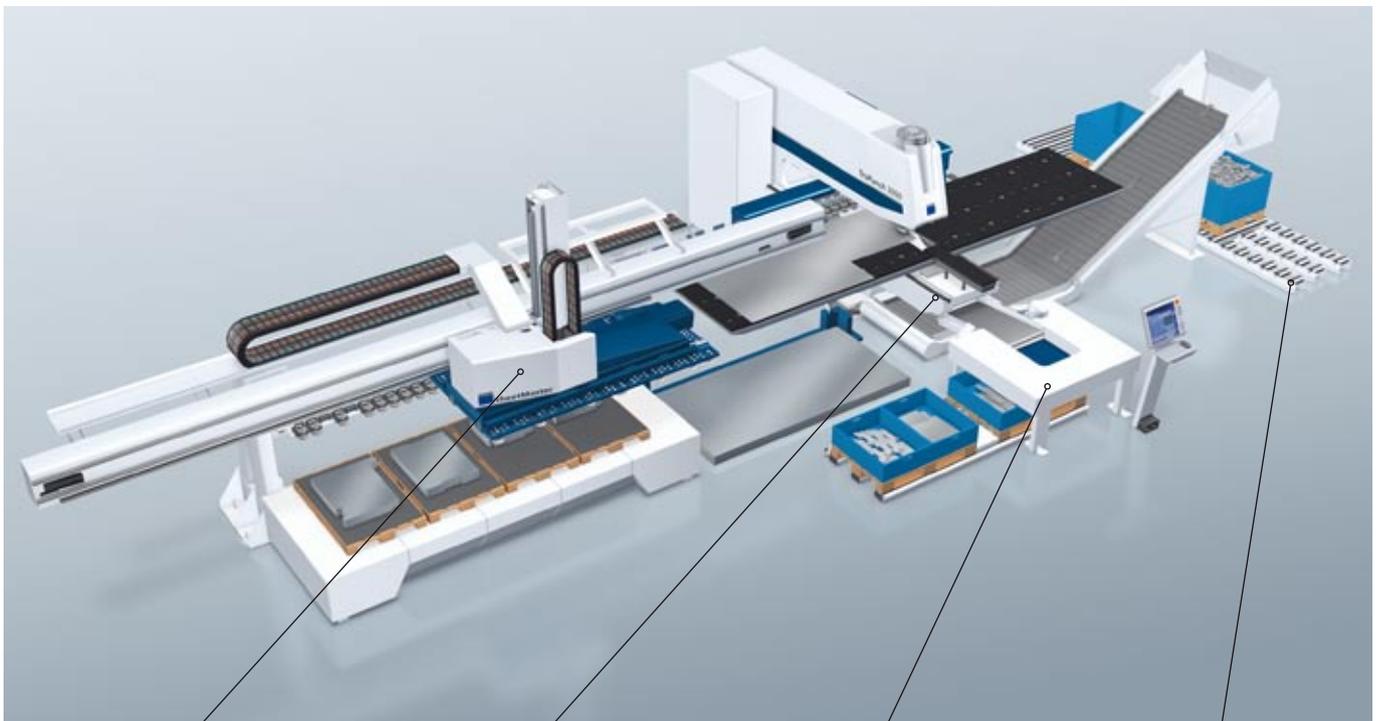
TruPunch 3000:
Benefits at a glance.

- 1 High resource efficiency.
- 2 Skeleton-free processing.
- 3 Scratch-free material handling.
- 4 Extensive automation.
- 5 Small machine footprint.

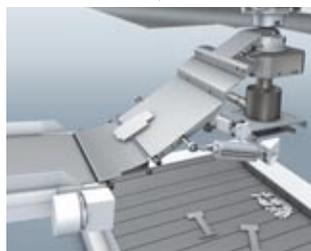


Energy-efficient electric punching head.

Extensive automation.



SheetMaster:
Performs speedy and process-reliable loading and unloading, stacking and sorting. Optional tool changer and space for additional tools.



Sorter:
Separates good parts from scrap.



SortMaster Box Linear with part slider:
Ensures virtually scratch-free sorting of good parts into containers, moving in a linear direction.



DisposeMaster:
Sorts sheet metal scrap, including slugs, according to material type.



Technical data:		
	TruPunch 3000 medium format	TruPunch 3000 large format^[4]
Work area (X x Y)	2500 x 1250 mm	3000 x 1500 mm ^[4]
Capacity		
Max. sheet thickness	6.4 mm	6.4 mm
Max. punching force	180 kN	180 kN
Max. clamping force	20 kN	20 kN
Max. workpiece weight	160 kg	230 kg
Speeds		
X axis	90 m/min	90 m/min
Y axis	60 m/min	60 m/min
Simultaneous (X and Y)	108 m/min	108 m/min
C axis	330 rpm	330 rpm
Max. stroke rate when punching (E = 1 mm)	1000 1/min	900 1/min
Max. stroke rate when marking	2500 1/min	2500 1/min
Max. acceleration^[1]		
X axis	12 m/s ²	12 m/s ²
Y axis	6 m/s ²	5 m/s ²
C axis	350 1/s ²	350 1/s ²
Tools		
Linear magazine	18 tools with 2 clamps	17 tools with 3 clamps
No. when using MultiTool	18 – 180	17 – 170
MultiTool	5/10 stations	5/10 stations
Tool change time		
Single tool	3.0 s	3.0 s
MultiTool	0.3 s	0.3 s
Accuracy^[2]		
Positioning accuracy Pa	± 0.1 mm	± 0.1 mm
Repeatability Ps	± 0.03 mm	± 0.03 mm
TRUMPF CNC control	Bosch Rexroth MTX CMP70	Bosch Rexroth MTX CMP70
Programmable parts chute		
Max. part size	500 x 500 mm	500 x 500 mm
Space requirements^[3]		
Including safety barriers	5000 x 6500 mm	5800 x 7300 mm
Power consumption		
Average power consumption	5.9 kW	5.9 kW
Punching head	Electric	Electric

^[1] Up to 100 kg sheet weight.

^[2] Achievable workpiece accuracy depends on various factors, including workpiece type, its pretreatment, sheet size and position in the work area. In accordance with VDI/DGQ 3441. Measuring length 1 m.

^[3] Approximate values. Exact specifications can be found in the most recent installation plan.

^[4] With repositioning.

TruPunch 5000

Productive high-end machine.

The TruPunch 5000 offers you unbeatable productivity. It punches at a hit rate of up to 1,400 strokes per minute or 2,800 strokes per minute when marking, thus setting the global benchmark for top performance.

Its skeleton-free processing concept makes the TruPunch 5000 easy to operate, guarantees efficient use of materials and ensures a consistently reliable process. On average it increases sheet utilization by 10%, enabling you to achieve significant savings on material costs.

The active die technology ensures scratch-free workpieces and makes it possible for you to produce punched and formed parts of larger dimensions than with other machines. By opting for the TruPunch 5000, you can be sure of obtaining the maximum possible quality from a machine capable of handling a diverse range of workpiece requirements and offering unparalleled process reliability.

You can choose the automation options that best suit your requirements and add more as the need arises. The ToolMaster, for example, enables you to select and set up to 70 tools from the magazine completely automatically.

TruPunch 5000: Benefits at a glance.

- 1 Unbeatable productivity.
- 2 Skeleton-free processing.
- 3 Scratch-free material handling.
- 4 Custom automation.
- 5 Maximum range of forming operations.



Intelligent automation.

Active die technology: the quality advantage.

- **Scratch-free processing:**

The active die enables you to produce scratch-free punched and formed parts. It sinks below the level of the work area while the sheet is being positioned to avoid metal-on-metal contact between the processing station and the workpiece.

- **Advanced forming capabilities:**

With the active die, a rising stroke is used to form the sheet from below, enabling you to achieve larger and deeper forms than ever before. Downward forming strokes can also be performed reliably by lowering the die.

- **Optimized process reliability:**

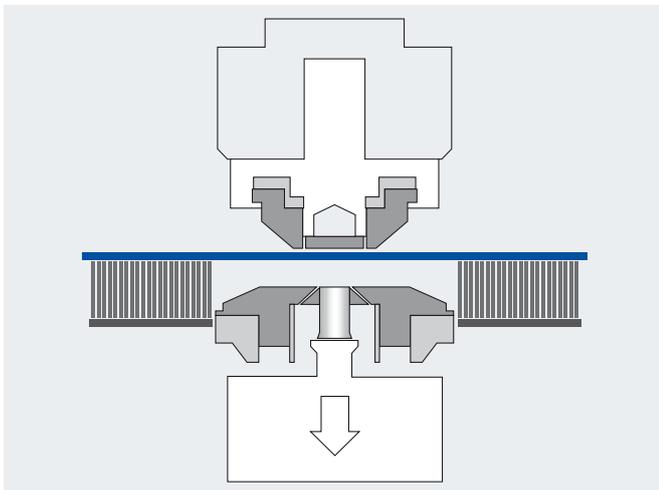
Due to the height of the dies used in forming operations, there is a risk of collision when cutting out large internal sections. The active die prevents this type of situation.

- **More efficient use of materials:**

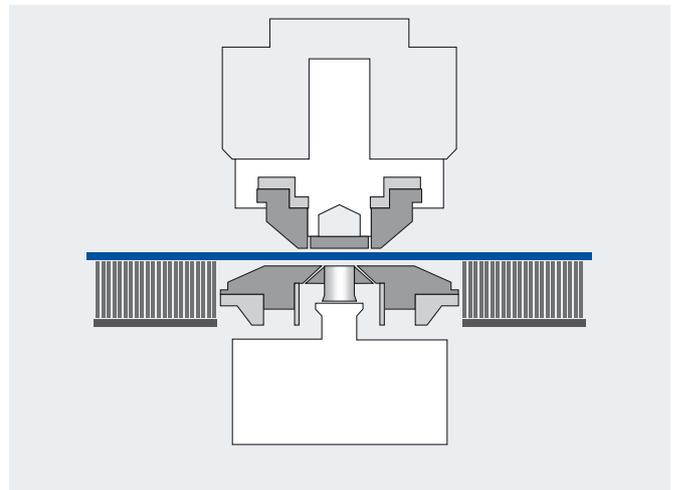
In a machine with an active die, the sheet always lies flat on the work area. This enables you to process forms closer to the edge of the clamp. Sheet utilization is improved and less material is wasted.

- **More user-friendly:**

Your machine is easier to program because you do not have to program around the die. And because there is less contact between metal surfaces, the machine operates more quietly and tools require less maintenance.



Scratch-free sheet positioning with the active die.



Sheet positioning with a conventional die.





Technical data:		
	TruPunch 5000 medium format	TruPunch 5000 large format
Work area (X x Y) ^[1]	2500 x 1250 mm	3050 x 1550 mm
Capacity		
Max. sheet thickness	8 mm	8 mm
Max. punching force	220 kN	220 kN
Active clamping force (programmable in increments)	4.5–20 kN	4.5–20 kN
Max. workpiece weight	200 kg	230 kg
Speeds		
X axis	100 m/min	100 m/min
Y axis	60 m/min	60 m/min
Simultaneous (X and Y)	116 m/min	116 m/min
C axis	330 rpm	330 rpm
Max. stroke rate when punching (E = 1 mm)	1400 1/min	1200 1/min
Max. stroke rate when marking	ca. 2800 1/min	ca. 2800 1/min
Max. acceleration^[2]		
X axis	20 m/s ²	18 m/s ²
Y axis	10 m/s ²	9 m/s ²
C axis	350 1/s ²	350 1/s ²
Tools		
Linear magazine	18 tools with 3 clamps	21 tools with 4 clamps
No. when using MultiTool	18–180	21–210
MultiTool	5/10 stations	5/10 stations
Tool change time		
Single tool	< 3 s	< 3 s
MultiTool	0.7 s	0.7 s
Accuracy^[3]		
Positioning accuracy Pa	± 0.1 mm	± 0.1 mm
Repeatability Ps	± 0.03 mm	± 0.03 mm
TRUMPF CNC control	Siemens Sinumerik 840D	Siemens Sinumerik 840D
Programmable parts chute		
Max. part size	500 x 500 mm	500 x 500 mm
Space requirements^[4]		
Including safety barriers	6760 x 6100 mm	7600 x 7000 mm
Power consumption		
Average power consumption	11.2 kW	11.2 kW
In standby mode	0.7 kW	0.7 kW

^[1] Without repositioning.

^[2] Up to 100 kg sheet weight.

^[3] Achievable workpiece accuracy depends on various factors, including workpiece type, its pretreatment, sheet size and position in the work area. In accordance with VDI/DGQ 3441. Measuring length 1 m.

^[4] Approximate values. Exact specifications can be found in the most recent installation plan.

Components that pay off.

Efficient, economical production through automation.

- Everything from a single source: there are no interface problems.
- Optimized material flow and enhanced process reliability boost productivity.
- Increase capacity by running highly automated multishift operations up to 24 hours a day.
- Careful material handling ensures more efficient material usage.
- Clearly organized storage gives you fast access to materials and saves space.

	SheetMaster	Cart systems	SortMaster Pallet	SortMaster Box
				
Compatible machines:				
TruPunch 3000	■	■		
TruPunch 5000	■	■	■	■
TruPunch 5000 with skeleton-free processing option	■	■	■	

¹⁾ With integrated tool changer (optional with SheetMaster).

SheetMaster – Fast and reliable loading and unloading, stacking and sorting.

Cart systems – Double your loading and unloading capacity by deploying versatile storage and sorting solutions for raw materials and finished parts. Solutions with tracks and belt drives are available.

SortMaster Pallet – Sort and stack finished parts on up to 6 europallets.

SortMaster Box – Sort finished parts into 4 standardized, stackable containers.

SortMaster Box Linear – Virtually scratch-free sorting of finished parts into containers traveling on horizontal rails.

GripMaster – Fast and reliable removal and stacking of sheet skeletons parallel to the loading process.

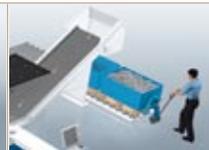
ShearMaster – Shredding of sheet skeletons during machining operations minimizes process costs in the manufacturing environment.

ToolMaster – Changes tools in less than 9 seconds and increases capacity, making up to 70 tools available at once.

DisposeMaster – Conveniently sorts shredded sheet skeletons and stubs according to material type.

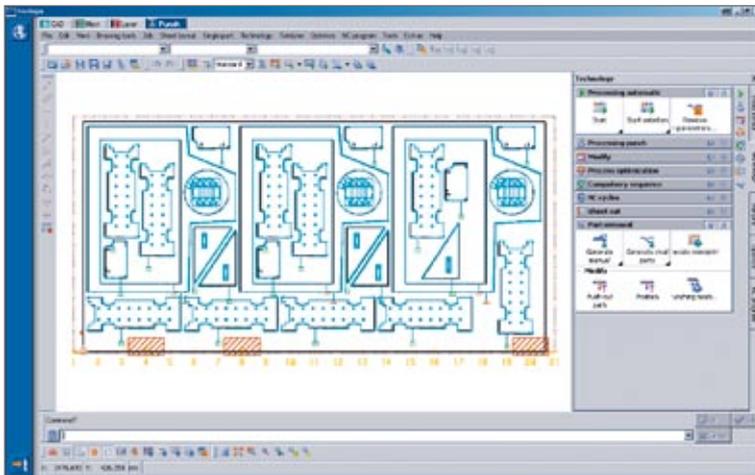
TruStore – Modular and upgradable storage and shelving system provides a well-organized, space-saving storage solution.

Stopa storage solutions – For special requirements we also offer highly customizable storage solutions in cooperation with our partner, Stopa.

SortMaster Box Linear	GripMaster	ShearMaster	ToolMaster	DisposeMaster	TruStore	Stopa storage solutions
						
■			[1]	■	■	■
■	■	■	■		■	■
■			■	■	■	■

Software:

Programmed
for success.



Our TruTops Punch programming software helps you to take full advantage of the potential of our TruPunch machines. No other comparable product offers the same combination of process reliability and high-speed NC coding. Automatic features enable fast and efficient programming, nesting solutions are perfectly tailored to your specific requirements and the scrap skeleton management function ensures the best possible material utilization. This impressive functionality is topped off with a user-friendly interface that includes powerful, yet easy-to-use simulation options.

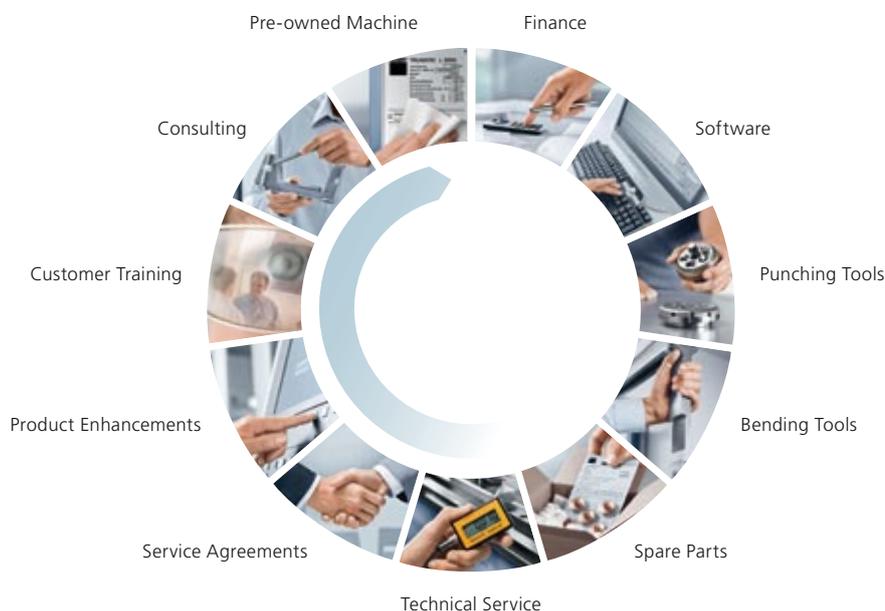
TruTops Punch: Benefits at a glance.

- Outstanding process reliability combined with fast NC programs.
- Full control over workpiece machining and process parameters.
- A product of TRUMPF's integrated design process – from conception to production planning.
- Consistently modern operating concept based on ergonomic principles and efficiency.
- Job interface saves time when entering and administering job data.
- Optimized use of materials and skeleton-free production.

TruServices:

Service like
no other.

Throughout the lifecycle of your machine.



Regardless of the TRUMPF technology you use, you will always get the best service. And, thanks to TRUMPF's award-winning spare parts logistics, all parts can be shipped to you in the shortest time possible. TRUMPF Leasing offers you individual financing solutions quickly and without a lot of paperwork. Our service technicians are highly trained and always available when you need them. A Service Agreement is the ideal way of ensuring the best usability of your machine.

Should your requirements change, we have flexible upgrading options and technical innovations that will make your machine even better. Our broad range of training courses with experienced trainers and hands-on practice will also give you a head start in understanding and operating your machine.

You can find out more about our services at www.trumpf-machines.com/en/services

The TRUMPF Group ranks among the world's leading manufacturers of production technology and industrial lasers. Technical and efficient solutions for our customers have been our focus since 1923. As a leading technology supplier, TRUMPF is a one-stop shop for all of your technology needs: machines, automation, storage technology and services.

TRUMPF is certified according to ISO 9001:2008
(for additional information see www.trumpf.com/en/quality)

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