

TRUMPF Inc.
www.trumpf.com

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TruBend

Thinking ahead.
Bending better.



Attention to every detail

Innovative ideas drive bending forward and your company too. Bending machines from TRUMPF offer functions to save resources, make operation easier, and ensure precise quality from the very first part. Features such as laser-measured angles, energy-saving hydraulics or fully automatic tool changes can make your bending production even more successful.



Diverse:

- Choose from the largest range on the market

Modern:

- Digital functions provide precise results

Simple:

- Fun operation that is easy to learn

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Commitment is what drives us

You can't bend the facts

Bending sheet metal with 1,100 tons of press force precisely to 0.3°? TruBend machines make it possible. This page shows fascinating facts and illustrates what you can bend under optimum conditions.

30%

weight savings with
lightweight bending tools

TRUMPF has delivered over

280 miles

of bending tools to date

You can bend

1,100t

of large and thick
parts precisely

0.3°

guaranteed angular
tolerance

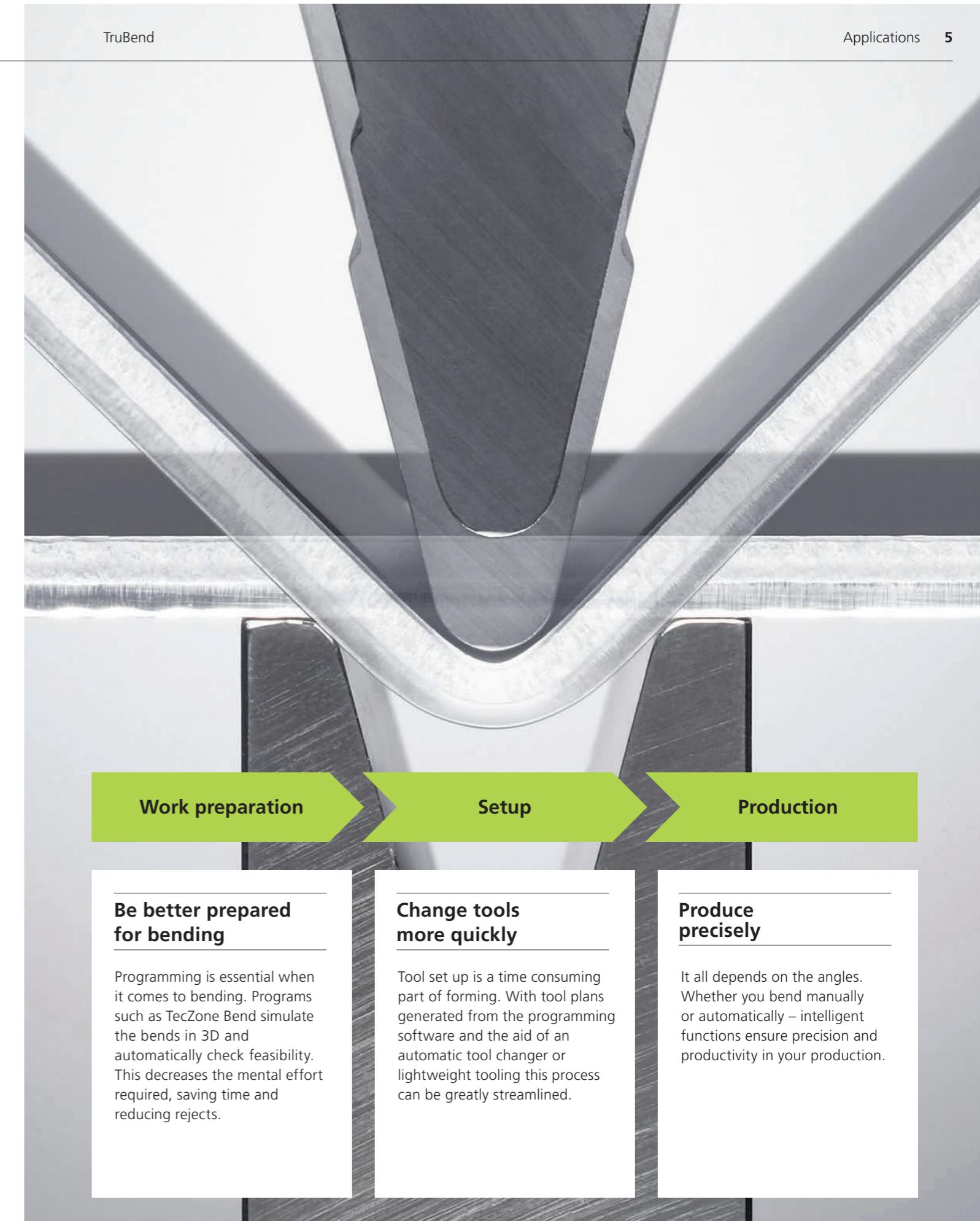
492 ft/min

backgauge for fast station operation

30°

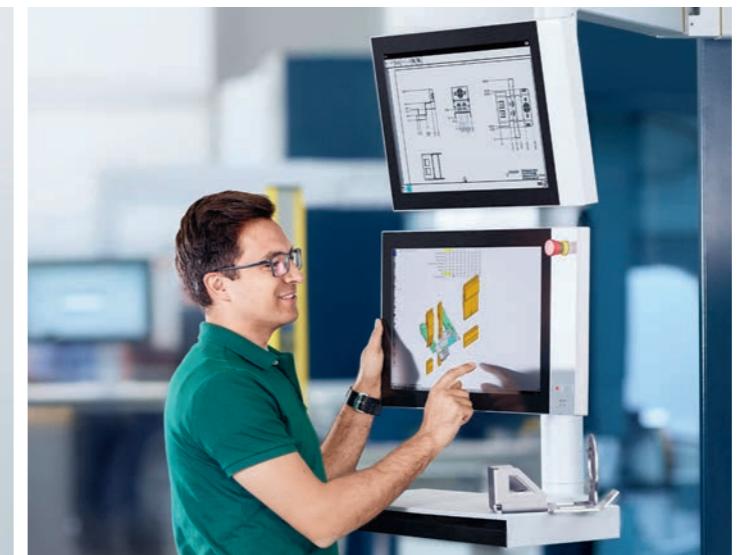
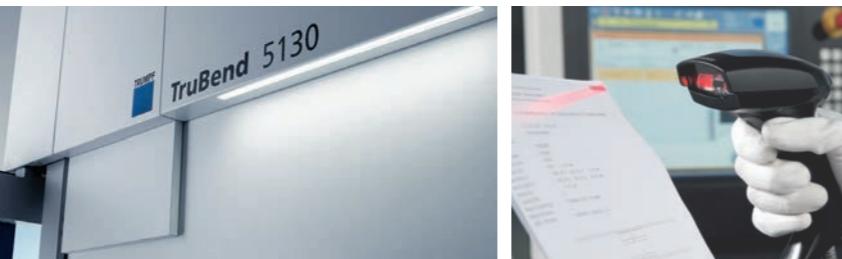
bends with support
of bending aids

Positioning precisely to
0.00008 in.



Innovations for your success

You want to know what's in it for you before you invest. On the following pages you can find the most important functions of the TruBend family sorted according to the benefits: part variety, quality, productivity, ergonomics, programming and tools.



Producing the entire range of products

Whether you are bending intricate or oversized parts: TRUMPF provides the widest machine range on the market to meet your various requirements – simply and without compromise.

Any component geometry

Regardless of whether your parts are thick, thin, large or small – with bending machines from TRUMPF you can produce an enormous part variety. Due to the large range of TruBend machine variants, you can process any component geometry cost-efficiently and in top quality. You benefit from:

- various tonnages and bending lengths
- a large material range from aluminum to Hardox
- precise positioning of your parts with 2-, 3-, 4-, 5- or 6-axis backgauge systems

Any part size

If you normally bend large parts, the option increased open height might be of interest to you. In contrast, the TruBend Series 7000 and the automatic TruBend Cell Series 7000 are specialized for small parts.
Bend with flexibility:

- With a press force of up to 1,100 US tons
- Parts of up to 26 ft. in length
- Box heights of up to approx. 20.4 in.



Depending on the machine, you can bend box heights of up to 20.4 in.



Precisely form complex parts with multiple bends.



Through thick and thin

Does the sheet thickness vary from batch to batch? No problem – the Thickness Controlled Bending (TCB) function automatically compensates for variations. Sensors detect the actual thickness of each sheet and adjust the pressing depth of the upper tool accordingly. This means that you can achieve precise angles regardless of the sheet thickness – without loss of productivity, calibration and programming effort.

Precise angles from the very first part

Perfect angles are what really counts when it comes to part quality during bending. If they are right from the very first part, you eliminate rejects and don't waste material or time. You have to be able to rely on your parts being identical in series production – you don't want to have to measure every angle again. This isn't necessary with a TruBend, because it offers you valuable additional benefits.

Precise angles right away

Numerous factors influence angle precision when bending, for example fluctuating strengths in the material or springback. The solution: automatic angle measuring systems from TRUMPF – they enable you to bend perfectly from the very first part in a series. ACB stands for "Automatically Controlled Bending." The ACB systems' sensors record the actual angle and springback and control the press beam so that the desired angle is bent – quickly and precisely. The two ACB Laser and ACB Wireless systems complement one another; one system may be more appropriate than the other depending on the application.

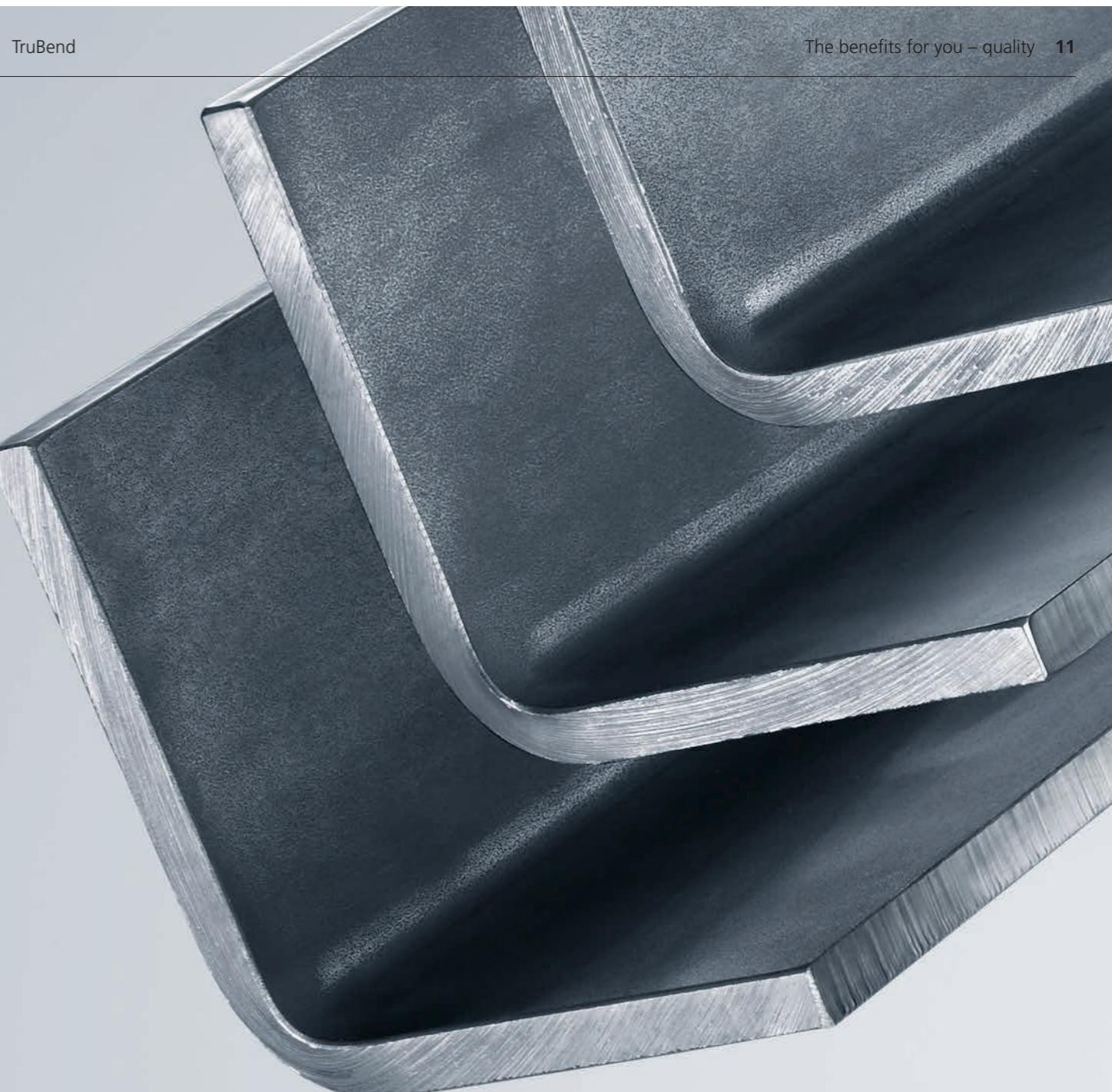
Tactile process: ACB Wireless

The user-friendly system measures and corrects angles using two sensor disks that are integrated into the upper tool. These sensor disks come into contact with the inner surface of your bending part during bending. In doing so, together with sensors, they measure the precise angle electronically and ensure that it is perfect.



Optical process: ACB Laser

Without any setup required – with ACB Laser you can use a non-contact, optical system for angle measurement. This means that two measuring units move in front of and behind the bending line independently of one another. Each unit consists of a laser and a camera. The laser projects a line onto the sheet metal; the camera detects and calculates the angle of the bending part in real time.



Strengths of ACB Wireless

- Particularly suitable for:
 - Short flanges
 - Reflecting surfaces
 - Interior tabs
- Quick station bending
- Quick multi-point measurement

■ High speed

■ Perfect angles

Strengths of ACB Laser

- Particularly suitable for:
 - Acute and obtuse angles
 - Thick sheet metal
 - Large radii
- No set-up required
- System is suitable for all tools
- Use of special tools possible
- Low interference contour
- Completely mark-free
- Quick multi-point measurement

■ Various bending methods possible



Reducing setup times all around

TRUMPF TruBend offers machine functions, tools and software to reduce your setup times to a minimum. Read more about some of its components on this spread.

Lightweight bending tools: 30% less weight

With the Safety-Click safety mechanism you can change the upper tools from TRUMPF quickly and safely. The operator simply clamps the tool into and out of the machine clamp from below. Patented lightweight bending tools from TRUMPF weigh around 30% less than conventional upper tools and are just as durable and resilient. This means more ergonomic and quicker setup.

BendGuard: Automatic and safe

With the Automatic BendGuard, you no longer have to adjust any safety devices manually on your bending machine. The BendGuard is CNC-controlled and moves independently to the height of the set-up tools. This ensures you avoid errors and save time with setup.

ToolShuttle: Change tools easily

Manual setup made easy? This can be achieved with the ToolShuttle. You can ergonomically move the tools from the tool magazine to the setup position via a moving table – this makes handling easier, particularly with large and heavy tools. Your tools are also stored in the ToolShuttle. The closed storage prevents corrosion and searching time is also reduced.



The ToolShuttle allows you to set up heavy tools quickly and easily.

Tool Indicator: Position precisely

With the LED bar in the upper tool clamp, you can set up in no time – it shows you exactly where the tool stations have to be placed. It also visualizes which tool station the next bend is to be carried out on.

ToolMaster: Change tools automatically

The ToolMaster automatically sets up your bending machine for every new program. An invaluable benefit, especially in case of small lot sizes. Find out more about the functions and benefits of the ToolMaster on pages 36 and 37.



During set up the Tool Indicator shows exactly where the bending tools have to be placed.



Bending is team work

The team made up of man and machine is critical to the bending success. If the operator is at ease, the machine can deliver its full potential. A bending machine from TRUMPF therefore does everything it can to make the operator's work easier. Starting with a quiet drive, optimum illumination and the adjustable screen. Ease of operation and ergonomic design ensure bending is fun and low fatigue.

MobileControl: Less time spent moving around

The smart helpers MobileControl and MobileControl Pro ensure that you spend less time moving around. As movable operating units on the press beam, they include the most important functions. This means that you can change the machine parameters in an instant – without constantly having to go to the control panel.



Bending aid: Lift sheet metal easily

Over time, bending large and heavy parts could have a negative impact on the health of even the strongest operator. The bending aid from TRUMPF prevents the problem before it starts. It supports bending of weights of up to 660 lbs, relieves the operator with angles of up to 30°, and the height can be adjusted automatically.



Part Indicator: For minimal rejects

The Part Indicator shows the operator where they should position the part. The next insertion position is then always shown. This reduces rejects, particularly in the case of inexperienced operators or complex parts.



Intuitive operation and programming

With TRUMPF, benefit from the enormous potential for time savings when controlling and programming your bending machine. The Touchpoint TruBend combines the advantages of state-of-the-art multi-touch technology and industrial control.

This makes operating your bending machine as simple and intuitive as using a tablet or smartphone. Programming 25 parts in 18 seconds? TecZone Bend makes it possible.

Benefit from the quickest and simplest bending programming on the market.

A dialog between operator and machine

Touchpoint TruBend is the simple interface for operating your bending machine. Navigation follows an intuitive logic. The displays are reduced to their essentials; realistic 3D visualizations with collision check to make processing easier. The right solution for each application – from simple to complex components.

TecZone Bend is the quickest and simplest programming system for bending machines and a great help for any operator. This means that you can carry out programming either at the machine or offline in the office and can switch seamlessly between these two aspects. The TRUMPF software automatically generates programs, including NC programs, based on 2D and 3D data. It calculates your bending programs in seconds – including collision check in real time, dismantling assemblies, managing setup plans, and much more. Prioritization of tools reduces downtime and increases the productive operating time of your machine.



Touchpoint TruBend – simple and intuitive operation.



Call up the programs easily using the 2D code scanner.



Access the right program automatically

Access the right bending program in an instant with the 2D code scanner. The scanner, which is connected to the machine, reads a bar code or Data Matrix Code from paper and automatically loads the program. This saves you entry and search effort.

The right tool for any challenge

Your bending machine provides top performance every day. All components have to interact to ensure this. This is why we don't just provide detailed advice, but also produce all tools ourselves – durable, precise and perfectly coordinated to your TruBend machine. Choose from the widest range of tools on the market. Our specialists also develop special tools to suit any requirement.

Durable with built-in added value

Wear-resistant working areas make your tools particularly durable. TRUMPF lasers use to harden them precisely where it matters – on the surface. The interior remains elastic to ensure that the tool does not splinter during overload. High-quality coatings such as LASERdur AL and LASERdur ZN prevent unwanted adhesion of aluminum or zinc due to abrasion of the sheet metal. This means that there are outstanding glide characteristics and no marks or imprecision. The tools are also corrosion-resistant and do not have to be cleaned.

Bend without leaving any trace

When bending aesthetic parts, it is particularly important that you do not leave any bend lines on the sheet metal. You can achieve this with the RollBend tool. It enables you to create small flange lengths, as well as moldings and holes close to the bending line, without causing deformation. You can easily combine it with standard dies.



Ensure your tools have a high level of surface hardness and outstanding glide characteristics – the LASERdur AL and LASERdur ZN hardening processes.



With the RollBend tool you can create short flange lengths, as well as moldings and holes close to the bending line, in a low-mark manner and without causing deformation.



For perfect integration with your machine, we produce all bending tools ourselves. You can obtain more than 150 upper and lower tools ex stock – as a set or individual parts. We develop, test and produce special tools in accordance with your specifications for particular requirements.



You can find **more information about TRUMPF bending tools** at www.trumpf.com/s/hup25d



To ensure you bend correctly

Whether you are a specialist for small or large parts, want to bend productively as an all-arounder or rely on fully automatic bending cells – you have the choice. On the following pages, you can find bending machines with intelligent functions for every requirement – to ensure you're always on the right track when it comes to bending.



Find more information on TruBend machines
at www.trumpf.com/s/hup25d



TruBend Series 3000

The cost-efficient, high precision machine – combines top TRUMPF quality with simple operation and an attractive price-performance ratio.

01

Easily get started

and program



03

Flexible setup

using precise tooling system

04

Precise angles

measured by laser

01

Easily get started

and program

You can produce cost-efficiently with low capacity utilization with the machines from the TruBend Series 3000. Further, you benefit from top safety standards. You can carry out graphical programming directly at the controls by quickly inputting externally created 2D DXF drawings. Tool data in DXF format can be imported quickly. TecZone Bend, the quick and easy programming system, is also available as an offline version.



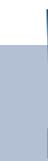
The state-of-the-art multi-touch controls are clearly organized, straightforward and self-explanatory.

03

Flexible setup

using precise tooling system

The tool handling is well thought-out. Self-centering tools reduce setup times; wear-resistant tool clamps ensure quality in the long run. You can set up upper tools of up to 30 lbs. from the front quickly with the aid of Safety-Click. You can also insert tools so they are rotated for maximum flexibility.



More information about the impressive functions of the TruBend Series 3000:

- System for perfect angles (page 10/11)
- TecZone Bend offline programming (page 16)
- 2D code scanner (page 16/17)

02

Compact design

for symmetrical transmission of forces

The compact architecture with hydraulic drive ensures a symmetrical transmission of forces. The entire bending length can be used without limitations. The crowning functionality guarantees uniform, precise angles, even with large bending lengths. The 4-cylinder technology makes the machines of the TruBend Series 3000 the fastest bending machines in their class.



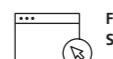
The 2-, 4- or 5-axis backgauge makes the machine quick and precise.

04

Precise angles

measured by laser

The TruBend Series 3000 is the only machine in its class with which you receive the ACB Laser angle measuring system. The laser and camera automatically check whether all angles are correct during the bending operation. The non-tool-based measurement system means no marks, no setup downtime and top part quality without rejects.



Find more information about the TruBend Series 3000 at www.trumpf.com/s/kx4t6m



TruBend Series 5000

The productive comprehensive machine – with its high number of benefits and functions during programming, setup and operation, you achieve unrivalled productivity during production.

01 **Makes your designs a reality**

precise and flexible



03 **Ergonomic control**

made for operators

02 **Flexible expansion** and automation

01

Makes your designs a reality precise and flexible

This machine is made for speed and precision. It has a sophisticated angle measuring system such as ACB Wireless and ACB Laser. It ensures precise angles from the very first part – regardless of the material properties. It is also user-friendly, saves rejects and increases your productivity, as it reduces time for first part set-up. Choose the right solution for every application – the two independent angle measuring systems can be combined with one another.



Precise angles due to laser measurement – ACB Laser.

03

Ergonomic control made for operators

The third generation of the TruBend Series 5000 makes the operator's daily work easier due to a variety of innovations. This includes comfortable and ergonomic control via wireless foot switch, which you can use to trigger the stroke directly. With the MobileControl system, you can save walking time, which is a great advantage when it comes to a 13-ft. machine.



The wireless foot switch puts an end to tripping.

02

Flexible expansion and automation

Your machine grows with you – with the ToolMaster tool changer you can set up tooling automatically. You can also upgrade it to the automated bending cell TruBend Cell 5000.



The ToolMaster now includes even more tools.

04

Easy to operate with productive extras

The handy bending aid for angles of up to 30°, including automatic height adjustment, provides valuable assistance. In particular, it helps when bending heavy or large parts. You can choose between either plastic, brushes or rollers as support. The Part Indicator positioning aid makes it easier to correctly insert the component into the machine – this increases operator's safety and reduces rejects.



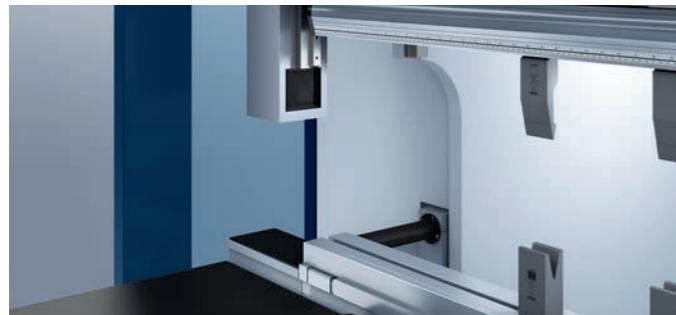
The bending aid – supports the operator.

04 **Easy to operate** with productive extras

Fully automatic safety

due to BendGuard Automatic

Adjusting the safety device manually? Not anymore. Due to the CNC control, the BendGuard Automatic moves automatically to the tool height of the positioned upper tools. This means that you save two additional manual interventions, and therefore valuable setup time. A potentially safety-relevant source of error is also eliminated.

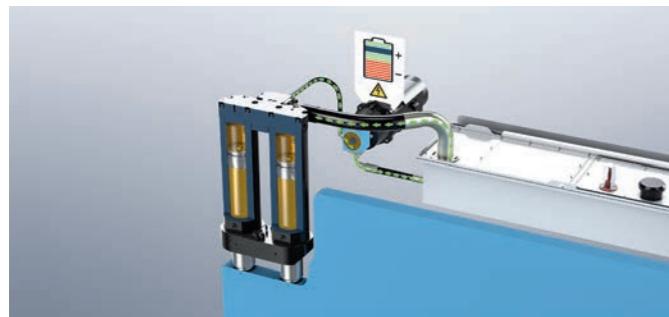


The CNC-controlled BendGuard Automatic.

Efficient and economical

energy as required

The speed-controlled On-Demand Servo Drive precisely provides your TruBend machine with the energy that it needs. It only runs during the bending process; in between, the hydraulics stop and do not use any energy. This means that it is economical, quick and quiet. If the press beam has to cope with a large pressing depth, the On-Demand Servo Drive supports it with increased working speed.



The On-Demand Servo Drive works energy-efficient, quickly and quietly.

Clearance

for precision

Due to the low deflection of the press beam, the 4-cylinder drive ensures a high level of precision over the entire bending length. Its flat design with a small cylinder diameter provides more edge clearance in front of the machine. The minimal contact surface prevents transfer of heat to the machine frame. The drive works electro-hydraulically and thus particularly dynamic, quietly and in an energy-saving manner.

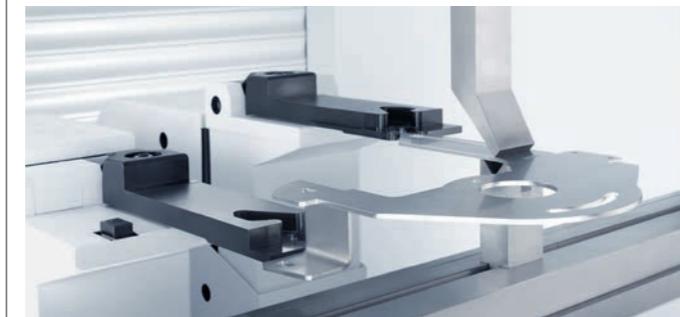


4-cylinder drive technology for top precision.

Universal bending

due to carefully thought-out design

You can bend a universal spectrum of parts with the TruBend Series 5000. The open machine architecture allows large box heights and greater part flexibility. With the help of the lower tool displacement, you can use special lower tools if required, for example to create folds or Z bends at a station – this can be done quickly, without retooling. The 6-axis backgauge with its gauge fingers that are independent from one another support maximum part variety.



Flexible production due to 6-axis backgauge.

Smart and intuitive

with Touchpoint control

Operate your bending machine as simple as your smartphone – TRUMPF combines the benefits of state-of-the-art multi touch technology and industrial control in the Touchpoint TruBend. The intuitive and simple operation similar to handling tablets or smartphones is also possible with gloves. The displays focus on the essentials and therefore make handling easier.



An additional screen gives you a better overview.

A boost

for your programming

With the TecZone Bend software you can use the fastest and simplest programming system for bending machines on the market. It allows you to program either at the machine or offline in the office, and relieves each machine operator significantly.



Shop floor programming with TecZone Bend.

More information about the impressive functions of the TruBend Series 5000:

- Thickness Controlled Bending – TCB (page 9)
- System for perfect angles (page 10/11)
- Tool Indicator (page 13)
- BendGuard (page 13)
- ToolMaster (page 13)
- MobileControl (page 15)
- Bending aid (page 15)
- Part Indicator (page 15)
- Touchpoint control (page 16/17)
- TecZone Bend shop floor programming and offline programming (page 16)
- 2D code scanner (page 16/17)



Find more information about the TruBend Series 5000
at www.trumpf.com/s/tuf5yq



TruBend Series 7000

The ergonomic high-speed machine – it bends small and medium-sized parts in a highly productive and space-saving manner and provides top working conditions at the same time.

01 **High output with top quality**

due to direct drive and ACB
Wireless



03 **Well thought-out space-saver**

suitable for every production

02 **Quick and safe** with the BendGuard Automatic

01

High output with top quality due to direct drive and ACB Wireless

Energy-saving and highly productive – the directly driven torque motor produces a high torque even at a low revolution speed. This means that you can use large press forces at the same high working speed. The mass-reduced backgauge also ensures a high level of drive dynamics. Together with the angle sensor ACB Wireless, you lay the ideal foundations for top productivity.



Its backgauge makes the machine particularly dynamic.

03 **Well thought-out space-saver** suitable for every production

Small and compact – with its low installation area, the TruBend Series 7000 is suitable for every production and can be transported by a forklift truck. When bending small and extremely small parts, the machine is a big help – due to the geometry of the gauge finger, you can also position parts with very small flanges with ease and collision-free. You can conveniently remove small parts directly after bending with the aid of a box.

More information on the impressive functions of the TruBend Series 7000:

- System for perfect angles (page 10/11)
- BendGuard (page 13)
- Touchpoint control (page 16/17)
- TecZone Bend shop floor programming and offline programming (page 16)
- 2D code scanner (page 16/17)

04 **Comfortable operation** due to consistent ergonomics

02

Quick and safe with the BendGuard Automatic

Two manual interventions fewer – manual adjustment of the safety device is now a thing of the past due to the BendGuard Automatic. With the help of the CNC control, the BendGuard moves independently to the height of the set-up tools. You save the usual manual interventions and valuable setup time, and can work safely and error free.



Automatic safety with the BendGuard Automatic.

04 **Comfortable operation** due to consistent ergonomics

If things are good for the bending operator, things are good for the bending process – the TruBend Series 7000 is the first press brake to receive an ergonomics certificate. The operator works ergonomically with a sitting and standing aid; they can adjust the support table individually. The sitting and standing aid and the swiveling control are easy on the spine. LED lighting ensures top visibility in the work area. Also a laser projects the line to be bent onto the sheet metal part providing intelligent assistance.



Find more information about the TruBend Series 7000
at www.trumpf.com/s/47yokz



TruBend Series 8000

The flexible large-format machine – with up to 1,100 tons of press force, it bends small, large or extra-large parts strongly and precisely.

01 **Bending complex parts**

even in extremely large sizes



03 **Quick installation**

due to surface-mounted design

02 **Simple setup**

even with heavy tools

04 **Powerful bending**

with extra force

01

Bending complex parts

even in extremely large sizes

The TruBend Series 8000 processes large and oversize formats in a versatile and extremely precise manner, for example due to the LCB (Laser Controlled Bending, similar to ACB Laser) laser-based angle measuring system version. With a particularly large usable open height and throat depth, 26 ft. of bending length, and up to 1,100 tons of press force, even high tensile materials and long flanges are no problem. You can bend smaller workpieces on multiple tool stations; the machine can even achieve Z bends perfectly – a true all-rounder.



LCB (Laser Controlled Bending) – the laser-controlled goniometer version of the TruBend Series 8000.

03

Quick installation

due to surface-mounted design

Surface-mounted versions of up to 20 ft. save you from having expensive foundations. This reduces the investment required and also gives you the freedom to position the machine independently and move it around. If you eventually resell the machine, you will benefit from stable prices on the used market, as your buyer also does not have to provide foundations.



More information on the impressive functions of the TruBend Series 8000:

- System for perfect angles (page 10/11)
- ToolShuttle (page 13)
- TecZone Bend stand-alone offline programming (page 16)
- 2D code scanner (page 16/17)

02

Simple setup

even with heavy tools

Large bending parts require large tools. Furthermore, the TruBend Series 8000 can be set up quickly and easily because of the ToolShuttle – the operator moves the tools from the tool magazine directly into the machine safely and ergonomically. The ToolShuttle has over 534 ft. of load capacity and stores your tools so that they are well protected.



The ToolShuttle sets up your tools quickly and ergonomically.

04

Powerful bending

with extra force

However, the crowning functionality and tool clamp of the TruBend Series 8000 are extremely sturdy with capacities of up to 660 tons. The automatic crowning functionality provides high productivity and precise angles over the entire bending length. Alternatively, adjust the crowning curve point by point every 10 in. A further advantage: like all bending machines from TRUMPF, the TruBend Series 8000 also has no unnecessary interference contours and thus makes part handling easier.



Find more information about the TruBend Series 8000
at www.trumpf.com/s/7e30pl



Tandem version of the TruBend Series 8000

Operate two perfectly attuned machines individually or together as one machine – for double the press force and double the bending length.



Large format in duplicate – for any situation

Do you bend both 20 ft. or 25 ft. long parts as well as short sheets? Then you need a flexible solution – the tandem version of the TruBend Series 8000.

Two machines act synchronously and thus double the bending length and press force. You can achieve longer flange lengths due to a large throat depth and can increase your part variety. You can also use each machine individually, meaning that you have two machines available for short parts.

The result: more capacity, more productivity, more orders processed.

Easy to operate also over 25ft.

You can even save money during installation due to the surface-mounted installation. Smart functions such as MobileControl, the multi-touch control or the bending aids are also there to support you in the tandem design – they make working over long distances easier and allow you to produce extremely professional.

Productive and reliable over the whole length

You can carry out two different bending operations with one tool using the lower tool displacement, even in tandem mode. This increases your part variety and saves setup time and investment costs. The BendGuard provides safe operations across the entire tandem bending length.



When is your tandem day?

A tandem facility is worth even if you only bend oversized parts occasionally. Simply use the machine as a tandem facility on certain days; the two machines can produce independently of one another during the rest of the week.

Special machines

Do you have very special requirements when it comes to bending length, press force, backgauge, open height or tool system?

Due to decades of experience in building customized bending machines, we will help you in developing special machines.



More on the topic
of tandem bending
on TRUMPFtube:
[www.trumpf.info/
5yov12](http://www.trumpf.info/5yov12)



Automatically successful

You produce particularly cost-efficient with an automatic bending cell – around the clock if required.

You reduce your cycle times and bend with minimal personnel effort. The continuous high quality of your components saves reworking and rejects. When do you start automatic bending successfully?

Why TruBend Cell?

To ensure that your processes run reliably and productively, we develop comprehensive solutions made up of bending machines, bending tools and automation. This also includes software, sensor systems, material flow and state-of-the-art gripping technology.

Keep a tight grip on your production

The BendMaster carries out gripping and moving during automatic bending. With vacuum gripping technology, it reliably handles components of up to 220 lbs. in weight and up to 13 ft. in length. The agile pivoted-jaw gripper moves small components. It removes small parts at the sheet removal station and provides them parallel to production. Depending on what you need and on which machine you carry out production, we recommend the pivoted-jaw and vacuum gripper technology.

Reliable due to sensors

Sensors ensure reliable material handling. This ensures consistent quality. The sheet sensor identifies blanks that are not centered – and this enables the gripper to pick up the blank in the correct position. Weight sensors ensure that only individual sheets are always lifted. The sensor system in the backgauge fingers ensures quick and precise positioning of your parts.



1. The right machine

Your TRUMPF bending cell suits you – choose the right machine type and the right machine size depending on the range of components.

2. Automatic setup

Automatically set up your bending machine for each new program with the ToolMaster tool changer. An invaluable advantage, even in case of small lot sizes. You save time and effort.

3. Produce automatically

Process a wide range of components with low part costs and high reliability standards. The universal offline programming saves time – create programs parallel to production at the workstation.

4. Customize completely

We also provide customized options when it comes to system technology and robotics. Do you require multiple robots or want to connect handling equipment? Are you looking for a solution for unusual circumstances? Simply contact us; we will be happy to advise you.



Find more information about automation for bending machines at www.trumpf.com/s/uda429



ToolMaster

Make searching for and moving tools a thing of the past: the tool changer sets up your bending machine for the next task automatically – the new generation is faster than ever.

This doesn't just save time and effort, it also particularly increases your productivity.

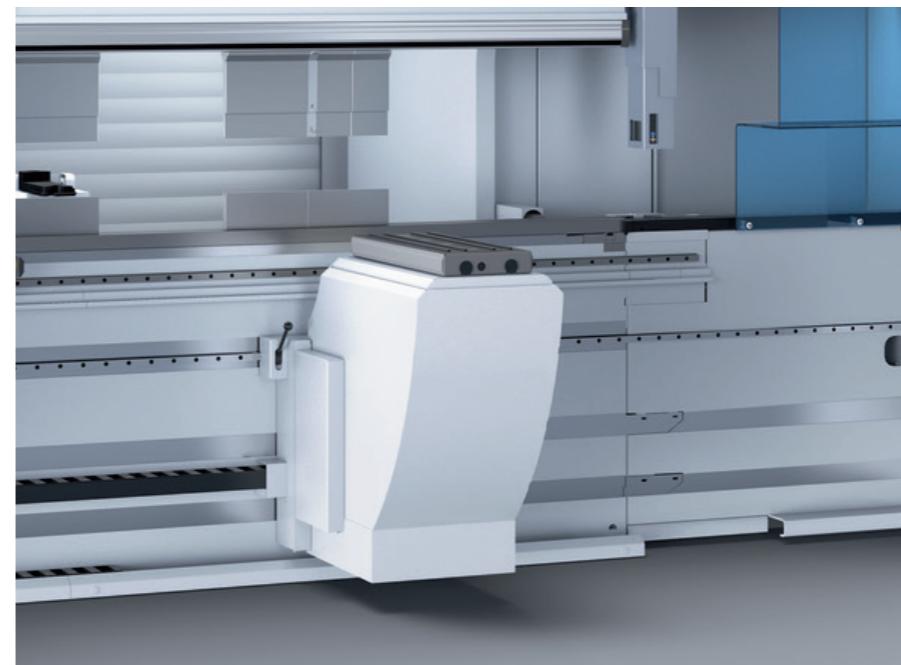
Change tools automatically

Retooling a bending machine during each program change is labor intensive. The ToolMaster carries out these setup operations for you. It can now do even more – you are able to load it parallel to production through a door; it uses standard tools, ACB tools, tools with adapters and has space for up to 278 ft. of tools on average – depending on the tool, even more is possible.

You can carry out other tasks while the ToolMaster automatically sets up your tools. This really pays off, particularly when it comes to small lot sizes. Searching and walking times are eliminated completely. Its positioning accuracy makes station operation easier for you. A further benefit – the closed storage protects your tools from dirt and corrosion.



Depending on the component, upper tools have to be set up so they are rotated. The rotary unit of the ToolMaster carries this out parallel to production.



Due to the integrated parking position for the bending aid or support brackets, you can use the space in front of the bending machine optimally depending on the component.



The ToolMaster uses standard tools; you can also use ACB and specialist tools, as well as tools with an adapter.



Find more information about the ToolMaster at www.trumpf.com/o8wite



TruBend Cell 5000

The productive universal bending cell – produces a wide range of parts cost-efficiently and flexibly with a consistent high level of quality. The BendMaster supports the operator when bending components of up to 220 lbs. in weight.

01

Produce reliably

with in-built intelligence



03

Easy regripping

lights out production planning

02

Efficient programming

for maximum productivity

01

Produce reliably

with in-built intelligence

The big advantage with automatic bending – you can produce reliably and with consistent quality around the clock. This is ensured by a number of factors. The sensor system in the 4-axis or 6-axis backgauge positions your components with precision. The angle sensor ACB ensures top part precision. Integrated simulation of your processes prevents failures and errors before they occur.



You can bend the perfect angles automatically due to ACB.

02

Efficient programming

for maximum productivity

Program all components of your bending cell simply, efficiently and consistently with TRUMPF. Automatic calculations support tool selection, bending sequences and finding the precise gripping position – and make all these processes easier.



Flexible gripper design for diverse applications.

03

Easy regripping

lights out production planning

The right gripper is always used – this is how your TruBend Cell 5000 processes the widest range of orders easily one after another. Depending on the component size, you can combine different gripping technologies for this purpose. You save plenty of time during small part production – blanks are separated parallel to production and transferred over to the pivoted-jaw gripper. You can produce up to four component types in one operation using the rotating sheet removal station, including regripping consoles.



The gripper quickly places the sheet metal on the regripping station, regrips it and lifts it up again.

04

Shape material flow

with a customized layout

Want maximum freedom? You can shape the material flow of your TruBend Cell 5000 according to your requirements using conveyor belts and pallet conveyors. A conveyor belt for removal of small, non-stackable parts also increases your productivity. Without interrupting the bending operation, the pallet conveyor loads blanks or unloads finished workpieces. If required, you can also connect your bending cell to a store.



Individually determine the material flow.

Keep a tight grip on your production

Do you need speed and maximum productivity? Should your TruBend Cell 5000 also reliably handle large and heavy parts? In both cases, the grippers with flexible use assist you at the bending cell with precision. This means that the pivoted-jaw gripper with its additional axes works highly productive. Its regripping outlay is minimal. It even holds parts that the suction cup cannot grab effortlessly. In contrast, the suction cup gripper can deal with any dimensions and reliably processes even large and heavy parts. You can also design and produce suction cup grippers yourself inexpensively.



Gripper changing console



Pivoted-jaw gripper with moving and rotary axis



Sheet removal station with rotary table



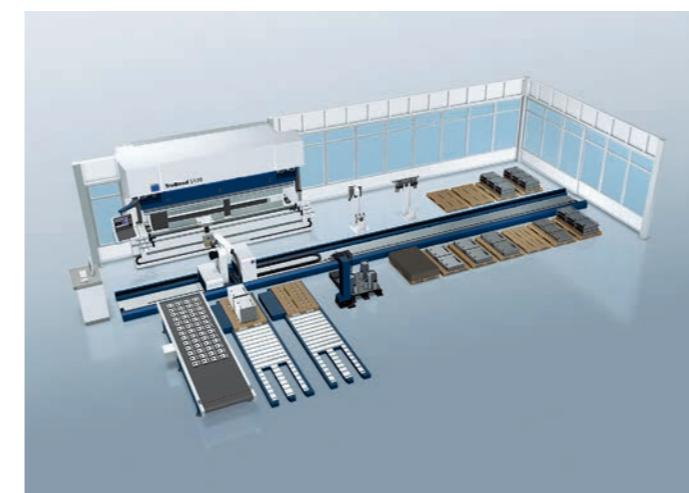
BendMaster (60) with fine-position recognition

Go with the flow

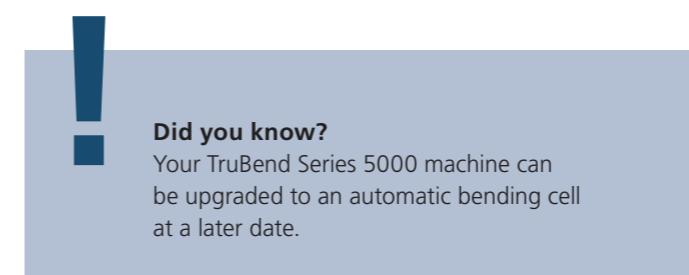
How long does your floor track need to be? Where would you like to have how many pallet spaces? A bending cell can be tailored precisely to your components and your production volume.



TruBend 5130 with BendMaster (60), 33 ft. track, sheet removal station, conveyor belt and gripper changing console.

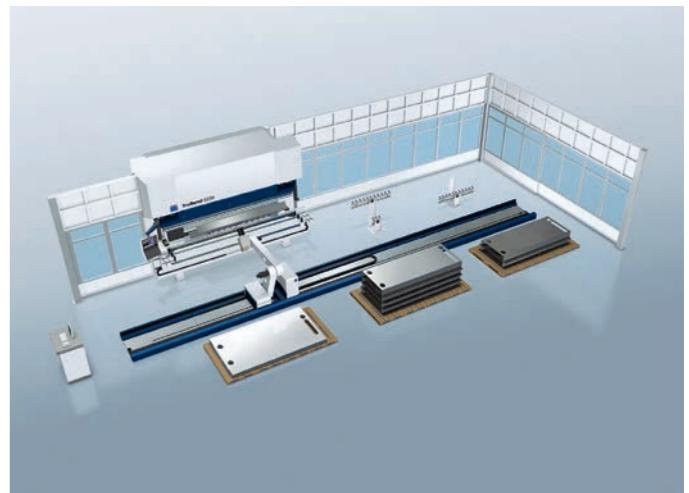


TruBend 5170 with BendMaster (60), 39 or 46 ft. track, sheet removal station with rotary table, two gripper changing consoles, conveyor belt and two pallet conveyors.

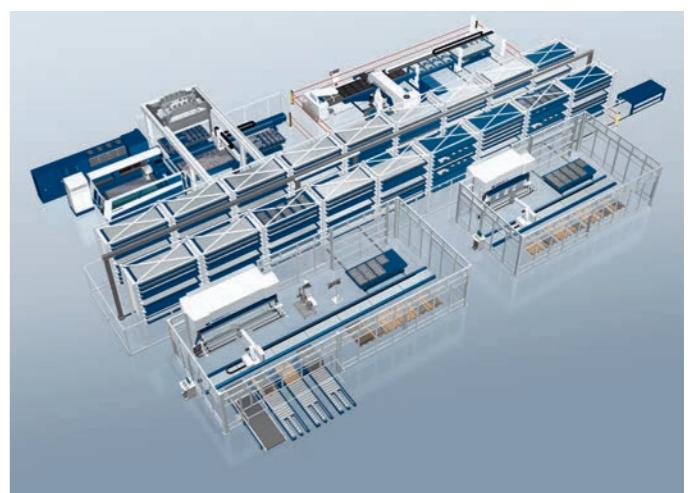


Did you know?

Your TruBend Series 5000 machine can be upgraded to an automatic bending cell at a later date.



TruBend 5230 with BendMaster (150), 46 ft. track and gripper changing consoles.



TruBend 5170 with BendMaster (60), 39 or 46 ft. track, sheet removal station with rotary table, two gripper changing consoles, conveyor belt and two pallet conveyors with storage connection.



Find more information about the TruBend Cell 5000
at www.trumpf.com/sqlo04



TruBend Cell 7000

The innovative high-speed bending cell – you can bend small parts dynamically and extremely cost-efficiently with the fastest system in the world.

01
Minimal costs
due to high part throughput



03
Compact
with minimum space requirements

02
More productive
due to split upper rail

04
Well thought-out
thanks to optimized material flow

01

Minimal costs
due to high part throughput

The part throughput of a TruBend Cell 7000 is twice as high as in a conventional bending cell. Quick individual components and harmonious processes make the bending cell dynamic. From the divided tool clamp and tool changer to offline programming – the interplay of innovative functions enables cycle times of just four to six seconds per bend. This allows you to bend with unparalleled low part costs.



High part number in no time – that is the TruBend Cell 7000.

03
Compact
with minimum space requirements

With an installation area of just 18 ft. by 12.5 ft., the TruBend Cell 7000 fits in any production. In addition to the space-saving installation, operation has also been thought out to the smallest detail. You can therefore load and unload your bending cell easily from the same side. Use exactly the installation option within the small cell that suits your requirements.



Perfectly attuned – machine and BendMaster.

02

More productive
due to split upper rail

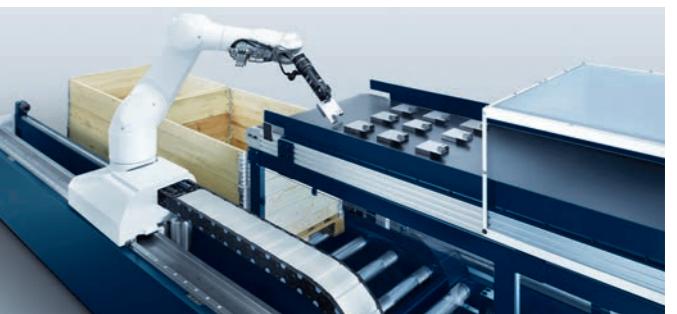
The tool clamp of the TruBend Cell 7000 is divided so that the robot arm of the BendMaster can grip directly through it. This minimizes regripping outlay and allows your cell to work even more quickly and productively. The pivoted-jaw gripper is available in multiple versions; which one is most suitable for you depends on your applications.



The tool is picked up correctly and positioned quickly.

04
Well thought-out
thanks to optimized material flow

Two synchronized robots load your machine at the same time – the ToolMaster sets up automatically and the LoadMaster Bend loads quickly, reliably and parallel to production. With the aid of a connector system, the system pallets provide up to 24 different components here. Finished parts are placed in boxes with different sections or discharged onto the pallet conveyor. The gentle conveyor belt is suitable for scratch-prone parts. The storage capacity is large enough that you can produce without an operator over a long period of time.



A conveyor system is available for storing finished parts.

Optimum processes

Automatic helpers ensure a smooth material flow around your bending cell. The ToolMaster sets it up automatically with the appropriate tools. The sensor system identifies the tool type and its position. This means that you can arrange the bending tools in the ToolMaster in any manner. It pays off especially with small lot sizes – your machine processes different orders without the need of any operator. The LoadMaster does not just load your system with blanks parallel to production.

An integrated sheet sensor also measures the blanks optically and transfers them to the BendMaster in exactly the right position. Finished parts land on a conveyor system; from there they are either transferred into boxes or discharged via the pallet conveyor. You can produce without an operator over a long period of time due to the large storage capacity. The TruBend Cell 7000 is also space-saving and can be loaded and unloaded from the same side.



Conveyor system with conveyor belt and pallet conveyor



ToolMaster

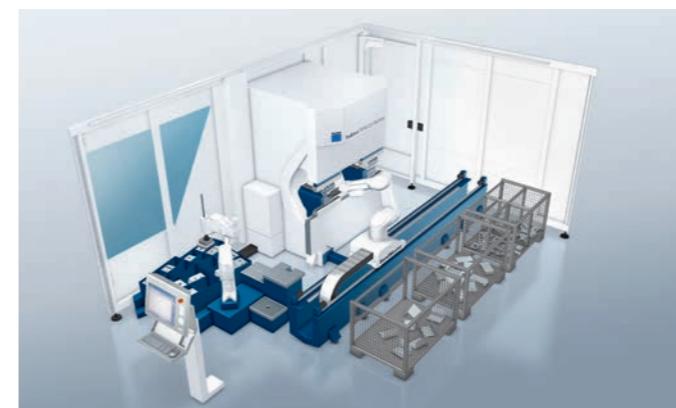


LoadMaster with system pallet

Arranged according to your requirements

Whether you want to have your finished parts sorted into boxes or discharged via a gentle conveyor belt – all components of your TruBend Cell 7000 can be put together perfectly in accordance with your requirements.

Here are a few possibilities:



TruBend 7036 Cell Edition with BendMaster (15) and LoadMaster.



TruBend 7036 Cell Edition in combination with BendMaster (15), LoadMaster, ToolMaster and conveyor belt.



TruBend 7036 Cell Edition, BendMaster (15), LoadMaster, ToolMaster and conveyor system.



Find more information about the TruBend Cell 7000
at www.trumpf.com/s/isram





Technical data

We have summarized the most important technical data of the TruBend machines for you.

TruBend 3066, TruBend 3100, TruBend 3170

	TruBend 3066	TruBend 3100	TruBend 3170
Press force	72 tons	110 tons	187 tons
Bending length	80 in.	120 in.	160 in.
Width between columns	93 in.	133 in.	173 in.
Max. table/press beam distance	18.5 in.	18.5 / 24.5 ^[1] in.	24.5 in.
Usable open height with manual and hydraulic tool clamping	14 in.	14/20 ^[1] in.	20 in.
Usable open height with TRUMPF QuickClamp	17 in.	17 / 23 ^[1] in.	23 in.
Working height ^[2]	41 – 42 in.	41 – 42 in.	41 – 42 in.
Press beam inclined position	± 0.12 in.	± 0.25 in.	± 0.3 in.
Speeds^[3]			
Y axis rapid traverse ^[4]	472 in/min	472 in/min	402 in/min
Max. Y axis operation	35 in/min	35 in/min	24 in/min
Y axis return speed	472 in/min	472 in/min	402 in/min
X axis	1,181 in/min	1,181 in/min	1,181 in/min
R axis	472 in/min	472 in/min	472 in/min
Z axis	2,362 in/min	2,362 in/min	2,362 in/min
Precision			
Y axis	0.0004 in.	0.0004 in.	0.0004 in.
X axis	0.002 in.	0.002 in.	0.002 in.
R axis	0.004 in.	0.004 in.	0.004 in.
Traverse paths			
Y axis stroke	8 in.	8/14 ^[1] in.	14 in.
X axis traverse path	24 in.	24 in.	24 in.
Max. stop range in X direction	34 in.	34 in.	34 in.
R axis traverse path	6 in.	6 in.	6 in.
Control	T3500T	T3500T	T3500T
Dimensions and weight			
Length x width	102 x 65 in.	142 x 65 in.	183 x 65 in.
Height	93 in.	93 / 101 ^[1] in.	115 in.
Weight	12,456 lbs.	16,975 / 17,637 ^[1] lbs.	33,069 lbs.

^[1] With extended open height (option).

^[2] With lower tool height of 3.9 inches. Working height varies depending on the height of the material being set up on the machine.

^[3] Traverse speed can be programmed individually.

^[4] With BendGuard (option)

Subject to alteration. Only specifications in our offer and order confirmation are binding.

TruBend 5085, TruBend 5130, TruBend 5170, TruBend 5230, TruBend 5320

	TruBend 5085	TruBend 5130	TruBend 5170	TruBend 5230	TruBend 5320
Press force	94 tons	141 tons	187 tons	253 tons	353 tons
Bending length	87 / 107 ^[1] in.	127 in.	127 / 167 ^[1] in.	127 / 167 ^[1] in.	174 in.
Width between columns	69 / 89 ^[1] in.	106 in.	106 / 145 ^[1] in.	106 / 145 ^[1] in.	145 in.
Max. table/press beam distance	20 / 29 ^[1] in.	20 / 29 ^[1] in.	29 in.	29 in.	29 in.
Usable open height	15 / 24 ^[1] in.	15 / 24 ^[1] in.	24 in.	24 in.	24 in.
Throat depth	16.5 in.	16.5 in.	16.5 in.	16.5 in.	16.5 in.
Working height ^[2]	43 – 44 in.	43 – 44 in.	43 – 44 in.	43 – 44 in.	44 – 45 in.
Press beam inclined position	±0.4 in.	±0.4 in.	±0.4 in.	±0.4 in.	±0.4 in.
Speeds^[3]					
Y axis rapid traverse	520 in/min	520 in/min	520 in/min	520 in/min	520 in/min
Y axis press operation ^[4]	max. 59 ^[4] in/min	max. 59 ^[4] in/min	max. 59 ^[4] in/min	max. 59 ^[4] in/min	max. 59 ^[4] in/min
Y axis return speed	520 in/min	520 in/min	520 in/min	520 in/min	520 in/min
X axis ^[5]	2,362 / 4,132 in/min	2,362 / 4,132 in/min	2,362 / 4,132 in/min	2,362 / 4,132 in/min	2,362 / 4,132 in/min
R axis	780 in/min	780 in/min	780 in/min	780 in/min	780 in/min
Z axis ^[5]	4,132 / 5,906 in/min	4,132 / 5,906 in/min	4,132 / 5,906 in/min	4,132 / 5,906 in/min	4,132 / 5,906 in/min
Precision					
Y axis	0.0002 in.	0.0002 in.	0.0002 in.	0.0002 in.	0.0002 in.
X axis	0.002 in.	0.002 in.	0.002 in.	0.002 in.	0.002 in.
R axis	0.003 in.	0.003 in.	0.003 in.	0.003 in.	0.003 in.
Traverse paths					
Y axis stroke	8.5 / 17.5 ^[1] in.	8.5 / 17.5 ^[1] in.	17.5 in.	17.5 in.	17.5 in.
X axis traverse path	24 in.	24 in.	24 in.	24 in.	24 in.
Max. stop range in X ^[5]	34 / 39 in.	34 / 39 in.	34 / 39 in.	34 / 39 in.	34 / 39 in.
R axis traverse path	10 in.	10 in.	10 in.	10 in.	10 in.
User interface	TruBend Touchpoint	TruBend Touchpoint	TruBend Touchpoint	TruBend Touchpoint	TruBend Touchpoint
Dimensions and weight^[6]					
Length x width	120 x 71 in. 139 x 71 ^[1] in.	157 x 75 in.	157 x 75 in. 196 x 75 ^[1] in.	157 x 75 in. 196 x 75 ^[1] in.	204 x 81 in.
Height	94 / 112 ^[1] in.	94 / 112 ^[1] in.	118 in.	118 in.	126 in.
Weight	17,637 / 19,180 ^[1] lbs.	23,590 / 26,015 ^[1] lbs.	31,195 / 39,353 ^[1] lbs.	37,479 / 43,762 ^[1] lbs.	50,927 lbs.

^[1] Second value for the extended design respectively (option).^[2] With lower tool height of 3.9 inches. Working height varies depending on the height of the material being set up on the machine.^[3] Traverse speed can be programmed individually.^[4] With working speed of 24 in/min.^[5] Depending on the selected backgauge.^[6] Data relates to the basic machine without options.

Subject to alteration. Only specifications in our offer and order confirmation are binding.

TruBend 7036, TruBend 7050

	TruBend 7036	TruBend 7050
Press force	40 tons	55 tons
Bending length	40 in.	60 in.
Width between columns	37 in.	51 in.
Max. table/press beam distance	16.5 in.	20 in.
Usable open height	12 in.	15 in.
Throat depth	6 in.	10 in.
Working height ^[1]	45 in.	45 in.
Press beam inclined position	n/a	n/a
Speeds^[2]		
Y axis rapid traverse	520 in/min	520 in/min
Y axis press operation	max. 59 in/min ^[3]	max. 59 in/min ^[3]
Y axis return speed	520 in/min	520 in/min
X axis	3,440 in/min	3,440 in/min
R axis	1,770 in/min	1,770 in/min
Z axis	5,200 in/min	2,362 in/min
Precision		
Y axis	0.00008 in.	0.0008 in.
X axis	0.0008 in.	0.0008 in.
R axis	0.0008 in.	0.0008 in.
Traverse paths		
Y axis stroke	5 in.	9 in.
X axis traverse path	9 in.	10 in.
Max. stop range in X	20 in.	20 in.
R axis traverse path	6 in.	6 in.
User interface	Touchpoint Bend	Touchpoint Bend
Dimensions and weight		
Length x width	75 x 53 in.	95 x 71 in.
Height	94 in.	102 in.
Weight	5,732 lbs.	12,125 lbs.

^[1] With 3.9 inches die height.^[2] Traverse speed can be programmed individually.^[3] Dependent on the die width and application.

Dependent on local regulations.

Subject to alteration. Only specifications in our offer and order confirmation are binding.

TruBend 8230, TruBend 8320, TruBend 8400, TruBend 8500,
TruBend 8600, TruBend 8800, TruBend 81000

	TruBend 8230	TruBend 8320	TruBend 8400	TruBend 8500	TruBend 8600	TruBend 8800	TruBend 81000
Press force	253 tons	352 tons	440 tons	550 tons	660 tons	880 tons	1100 tons
Bending length	159 / 199 / 238 in.	199 / 238 in.	199 / 238 in.	159 in.	159 / 199 / 238 in.	238 / 278 / 317 in.	278 / 317 in.
Width between columns	140 / 159 / 199 in.	159 / 199 in.	140 / 159 / 199 in.	140 in.	140 / 159 / 199 in.	199 / 238 / 278 in.	238 / 278 in.
Surface-mounted design	Yes	Yes	Yes/Yes/-	Yes	-	-	-
Max. table/press beam distance ^[2]	32 ^[1] / 40 ^[1] in.						
Usable open height	26.5 / 34 ^[1] in.						
Throat depth	16.5 / 24 ^[1] in.						
Working height	46 in.	46 in.	42 / 46 / 42 in.	42 in.	40 in.	40 in.	38 in.
Press beam inclined position	± 0.4 in.						
Speeds							
Y axis rapid traverse	520 in/min	354 in/min	402 in/min	378 in/min	283 in/min	331 in/min	236 in/min
Y axis press operation	24 in/min	24 in/min	24 in/min	24 in/min	21 in/min	24 in/min	19 in/min
Y axis return speed	520 in/min	283 / 354 in/min	402 in/min	378 in/min	283 in/min	331 in/min	236 in/min
X axis ^[3]	2,362 in/min	2,362 / 1,890 / 1,890 in/min	1,890 in/min				
R axis ^[3]	472 in/min	472 / 331 / 331 in/min	331 in/min				
Z axis ^[3]	2,362 in/min	2,362 / 1,890 / 1,890 in/min	1,890 in/min				
Precision							
Y axis	0.0004 in.						
X axis ^[3]	0.0008 in.						
R axis ^[3]	0.002 in.						
Traverse paths							
Y axis stroke	20 / 28 ^[1] in.						
X axis traverse path ^[3]	24 in.						
Max. stop range ^[3] in X	40 in.						
R axis traverse path ^[3]	8 in.						
Control	T8000T multi-touch						
Dimensions and weight available on request							

^[1] Values for the extended design (option).^[2] Values for tool clamp with specific max. load.^[3] Values apply to 2-, 4- and 5-axis backgauge.

Subject to alteration. Only specifications in our offer and order confirmation are binding.

2 x TruBend 8230, 2 x TruBend 8320, 2 x TruBend 8400, 2 x TruBend 8500, TruBend Cell 5000 with BendMaster (60), TruBend Cell 5000 with BendMaster (150), TruBend Cell 7000 with BendMaster (15)

Tandem system	2 x TruBend 8230 (13.5 ft.)	2 x TruBend 8320 (10 ft.)	2 x TruBend 8400 (14 ft.)	2 x TruBend 8500 (14 ft.)
Press force	2 x 253 tons	2 x 352 tons	2 x 440 tons	2 x 550 tons
Electrical connection (approx.)	2 x 35 kVA	2 x 44 kVA	2 x 53 kVA	2 x 62 kVA
Bending length	319 in.	240 in.	319 in.	319 in.
Width between columns	120 in.	81 in.	120 in.	120 in.
Throat depth	32 in.	32 in.	32 in.	32 in.
Length	365 in.	287 in.	368 in.	372 in.

The TruBend Series 8000 is available in four designs, whereby the left and right machine types are always the same. Other lengths/tonnages available on request. Subject to alteration. Only specifications in our offer and order confirmation are binding.

	TruBend Cell 5000 with BendMaster (60)	TruBend Cell 5000 with BendMaster (150)
Max. component size	79 x 39 in.	118 x 59 in.
Max. component weight	88 lbs.	220 lbs.
Max. workpiece weight	132 lbs.	330 lbs.
Min. sheet thickness	0.027 in.	0.027 in.
Path length	236 – 551 in.	236 – 630 in.
Max. blank stack	28 in.	28 in.
Max. stack height for finished parts	39 in.	47 in.
TruBend Series 5000	from 5130 to 5230	from 5130 to 5230

Subject to alteration. Only specifications in our offer and order confirmation are binding.

	TruBend Cell 7000 with BendMaster (15)
Maximum component size	20 x 15 in.
Maximum sheet thickness	0.25 in.
Max. component weight	6.6 lbs.
Max. workpiece weight (restricted as noted)	3.3 lbs.
Press force	40 tons
Working speed	up to 118 in/min
Dimensions	217 x 152 in.

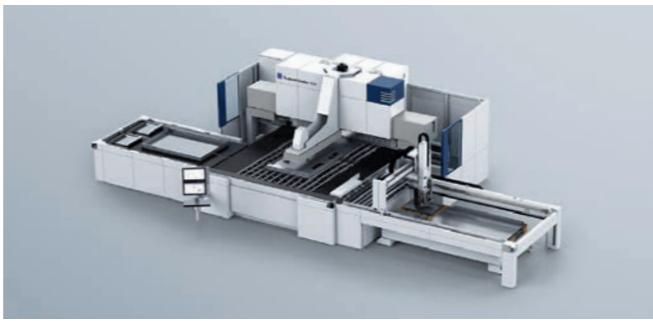
Subject to alteration. Only specifications in our offer and order confirmation are binding.

Spotlight: Panel bending

In addition to die bending, TRUMPF provides another technology – panel bending. This allows you to achieve multi-dimensional workpieces with minimum flange lengths, high boxes, small profiles, formed sections, recesses, diverse radii and multiple negative bends quickly and with flexibility.



Whether it's partially or fully automatic – with the TruBend Center 5030 and TruBend Center 7030 panel benders, you can exploit the widest range of parts on the market. This enables you to create particularly complex components in addition to the traditional panel bending range. From delicate cases to large tanks, components for the widest range of industry branches and applications are possible.



Find more information about the TruBend Center 7030 at www.trumpf.com/s/fk8ucb
Find more information about the TruBend Center 5030 at www.trumpf.com/s/lyphtf



TruServices. Your Partner in Performance

To secure your future success, capitalize on services that will move you forward, not just short-term but in the long run too: Whether you want to create the best conditions for successful manufacturing, make the most of your TRUMPF laser systems, or have the flexibility to adapt to changing requirements – together we will find opportunities to maximize your value creation long-term. We will provide you with all-around support as a reliable partner with solutions and service packages for your needs – enabling you to manufacture economically and at a consistently high level.

EMPOWER
If you would like to create optimal conditions for production success, we will help you with that. With the TRUMPF BendGuide app you can calculate the most important bending parameters (such as press force, press force table, box height, flange length, die width, open height control, inner workpiece radius or workpiece height) quickly and easily.

SUPPORT
If flexibility and system availability in ongoing operation are a must for you, we are there for you. The Technical Service and the TRUMPF service networks will assist you. Simply contact us; you can even do this via the Service app.

IMPROVE
If you want to gradually focus your manufacturing on maximum value creation, we will work together to reach your goal. Use our comprehensive training program to expand your knowledge and get a competitive edge. Our experienced trainers share their tips and tricks with you when it comes to bending machines and take you to the next level in the field of bending.

Find more information about TruServices at www.trumpf.com/s/services

Commitment is what drives us

Whether manufacturing and production technology, laser technology or material processing: We develop highly innovative products and services for you that are the industry standard and completely reliable. In order to offer you decisive competitive advantages, we give it our all: Expertise, experience and all of our commitment.



TruConnect
Your Smart Factory

Visit us on YouTube:
[www.youtube.com/
TRUMPFtube](https://www.youtube.com/TRUMPFtube)



Lasers for manufacturing technology

Whether macro, micro or nano: We have the right laser and the right technology for any industrial application, allowing you to manufacture in an innovative yet cost-efficient manner. In addition to the technology, we will also support you with system solutions, knowledge of applications, and advice.

Power-supply systems for high-tech processes

From semi-conductor production to manufacturing solar cells. Our high- and medium-frequency generators provide electricity for induction heating, plasma and laser excitation - a defined form based on frequency and demand – highly reliable and for repeat accuracy.

Machine tools for flexible sheet metal and tube processing

Laser cutting, punching, bending, laser welding: For all processes in flexible sheet production, we offer you custom-fit machines and automation solutions, including consultation, software and services - enabling you to produce high quality parts reliably.

Industry 4.0

The TruConnect range of solutions connects man and machine through information. It covers all steps in the production process – from quotation to shipping your parts.