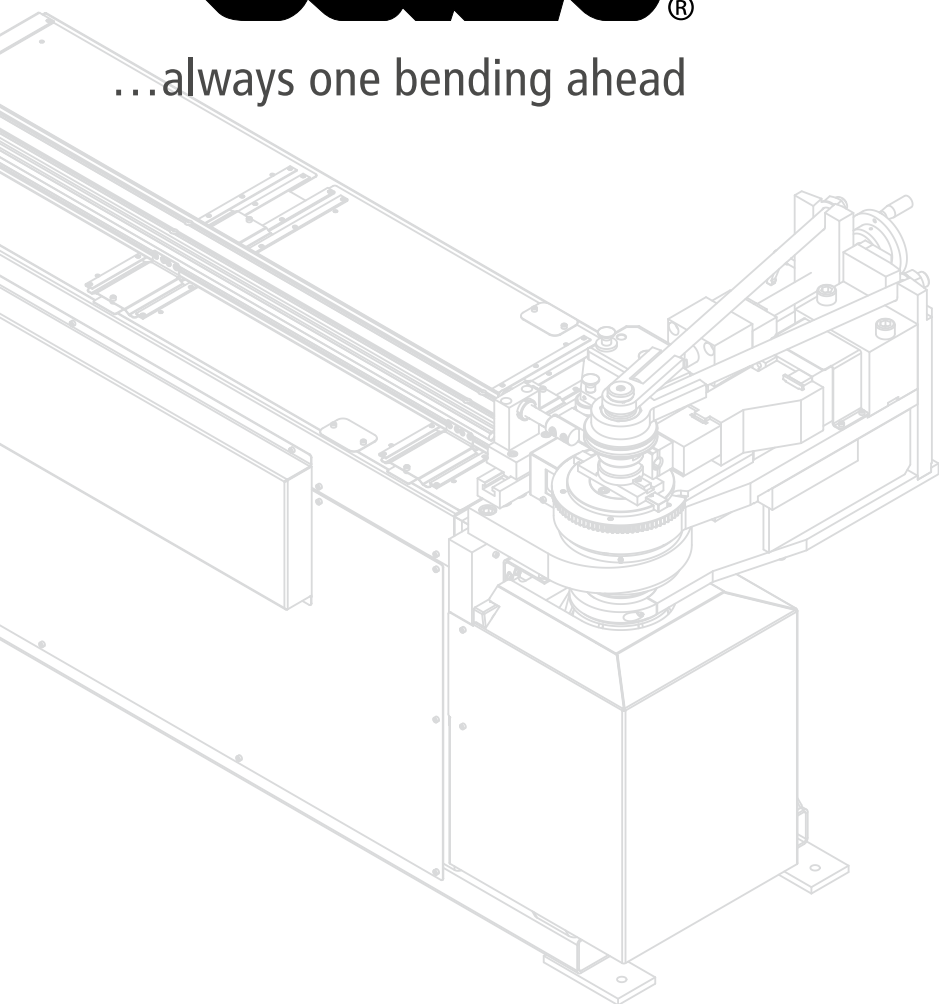




...always one bending ahead



Innovative Bending Technology at the highest level

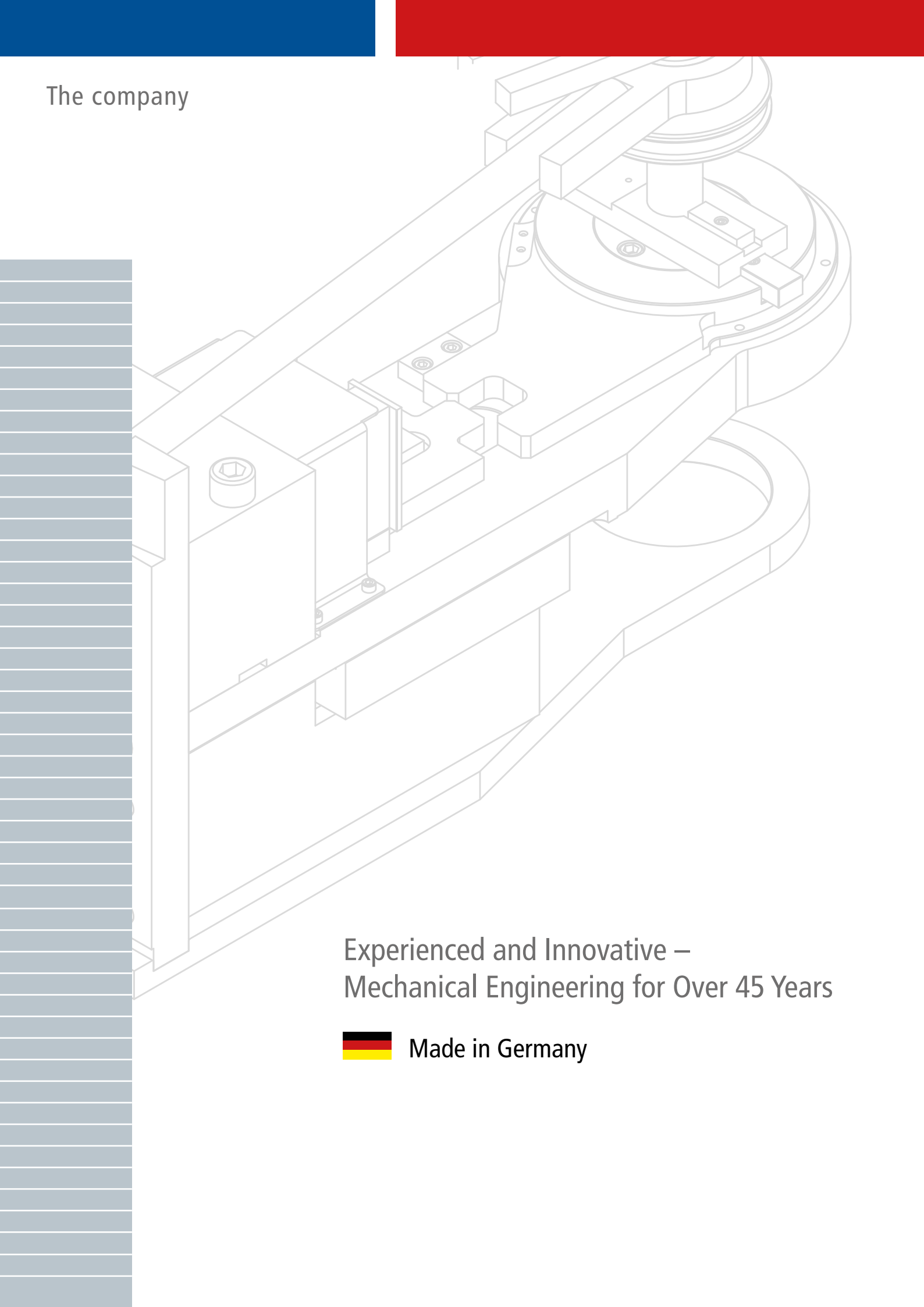
Semi-automatic bending systems
with software solutions



www.jutec.de



Since 1980 - Made in Germany



The company

Experienced and Innovative –
Mechanical Engineering for Over 45 Years



Made in Germany



JUTEC Bending Systems — Your Trusted Partner in Tube Bending Technology

Since 1980, we have been developing and manufacturing tube bending machines at the highest technical level. All JUTEC bending machines impress with user-friendly operation and the highest quality — handmade in Germany. Thanks to our decades of experience in manufacturing innovative and reliable bending systems for processing pipes and profiles, we offer comprehensive solutions for pipe processing. The current state of all JUTEC bending systems is the result of continuous and future-oriented development of our bending machines. The product range extends from small manual bending machines to semi-automatic mandrel bending machines, roll benders, and profile benders, and includes bending system solutions up to an outer diameter of 160 mm.

Your success is our goal. To achieve this, we focus on leveraging the collaboration among all JUTEC departments and our know-how to find the perfect solution for your individual needs. If necessary, we can also provide entirely customized solutions just for you. Development and manufacturing in our plant in Limburg, Germany, give us the opportunity to make specific adjustments with great flexibility and high quality.

We understand the requirements for effective production processes and guarantee you professional advice. Benefit from our extensive expertise gained from worldwide experience. We accompany you from planning to maintenance in all processes. With the technically sophisticated JUTEC bending machines, you can produce safely and reliably. By doing so, we establish optimal conditions to facilitate your success. Rely on a family-run, traditional company that combines high values with modernity and offers outstanding service!

JUTEC Bending Systems – Your trusted partner for bending the curve!



Our bending machines are unrivalled in precision and productivity

JUTEC bending systems can be effectively deployed in almost every industrial and trade sector. We will be glad to assist you also in the field of special constructions.

Among other things, we offer solutions for:

- Aerospace
- Hydraulic construction
- Machine construction
- Metal construction
- Pipeline construction
- Plant engineering and construction
- Prototyping
- Refrigeration and air conditioning
- Sanitary and heating construction
- Shipbuilding
- Staircase construction
- Suppliers
- Vehicle construction



Our services before and after purchase:

Over 45 years of JUTEC bending systems — a guarantee for bending technology and system solutions at the highest level. Emphasized by references in all areas of metal and pipe processing. Hence, we kindly invite you to get to know our bending machines more closely as part of the forthcoming investment. Take advantage of one of the following options:

1. Welcome to test production at our facility

All machines are available for testing purposes in our demonstration room. Here, we have the opportunity to discuss the machine extensively together and bend sample parts.

2. Machine demonstration on your premises

After the offer has been made with a detailed definition of all types of pipes and forthcoming requests, we will gladly come to your location with the corresponding bending

machine. During this visit, we'll again have the chance to delve into the machine specifics together and demonstrate its capabilities by bending sample parts.

3. Consultation/Advisory Meeting

We agree on a date and meet for a constructive consultation regarding your requests.

More Service – More Possibilities

- Leasing/Financing
- Rental Machines
- Trade-Ins
- Maintenance Contracts

Contact us now at info@jutec.de !



Which bending solution is right for your application?

JUTEC BENDING SOLUTIONS

From compact manual bending devices to high-performance machines for tube diameters up to 160 mm. The ideal solution for prototype construction, assembly, hydraulics, plant engineering, tubework, metalwork and industrial applications.

Mandrel bending

For precise bends, tight radii and complex tube geometries. In rotary mandrel bending, the tube is clamped between the bending tool and the clamping piece and drawn into the bend radius by rotation. A counter bearing supports the tube from the outside, whilst a fixed inner mandrel prevents the tube from wrinkling and distorting. Depending on the application, balls on the mandrel ensure the radius remains round. In the case of hard or extremely thin-walled materials, an additional crease smoother prevents wrinkling on the inner radius. This process is used for bending radii of $< 2 \times D$.

JUTEC 4800: Ø 4-50 mm

Compact mandrel bender with manual clamping

JUTEC 5000: Ø 4-50 × 4 mm

Electrically driven – tight bending radii from $1.5 \times D$

JUTEC 7000: Ø 10-70 × 5 mm

High-performance mandrel bender for larger tube sizes

JUTEC 9000: Ø 10-90 × 5 mm (100 × 2 mm)

For large tube diameters and complex geometries

OTHER BENDING SOLUTIONS

KBV – Small bending device

Compact manual bending solution for small-diameter tubes

PB20 – Profile bending attachment

For flat, square and round bars

CUSTOMISED SOLUTIONS ON REQUEST

Advantages:

- High bending accuracy along the bending axis: $\pm 0.1^\circ$
- Standard radii: $R_m = 2 \times D$ ($R_m = 1.5 \times D$ is also possible)
- Geometries with consistent dimensions achieved through digital measurement of length and rotation in the carriage
- Automatic overbending based on a material database
- Data importing from external calculation systems
- On-board calculation of tube geometry, free-form drawing and conversion of Cartesian coordinates into bending data
- Bending without a mandrel is possible by removing the mandrel
- High-quality, tight bends

Mandrel-free bending

Fast, flexible and portable – for a range of tube sizes and applications. In rotary bending without a mandrel, a driver on the bending tool pulls the tube into the bending radius by rotating it. A counter bearing absorbs the resulting lateral forces and supports the tube from the outside. For thick-walled tubes, a counter roller is used, whilst thin-walled tubes – such as those made of stainless steel, copper or aluminium – are bent using sliding shoes. This guides the material from the outside and prevents wrinkling and distortion. Special tools can also be used to bend solid material and produce repeatable tube bends.

JUTEC 3000: Ø 4-35 mm

Compact and portable

JUTEC 6000: Ø 4-60 × 5 mm

Powerful bending machine for workshops and assembly

JUTEC 10000: Ø 4-100 × 5 mm

For extreme use

JUTEC 15000: bis Ø 160 mm

The new performance class for large tube diameters

Profile bending

For consistent radii and complex bending geometries. In profile bending, the tube is guided through three tool rollers and bent by positioning and rotating them. The roller position determines the radius, whilst the travel distance determines the bending angle. An optional lifting roller enables the production of spirals with a defined pitch. As the tube cannot be supported from the inside, this method is only suitable for large bending radii of approximately 10 times the pipe diameter or more, without any loss of quality. To manufacture these kinds of geometries with dimensional accuracy, measuring instruments and a tube calculation programme are required.

RB60 - 3-roller bending machine

For large radii, profiles and spirals

Advantages:

- Quick and easy to use
- Portable machines delivering precise bending results
- Larger bend radii and thicker wall thicknesses
- Simple programming (3000, 6000, 10000 and 15000 models)
- Small, compact and maintenance-free units
- Custom designs can be implemented cost-effectively
- Automatic overbending compensates for material-specific springback
- Maintenance-free drives with three-phase motors

Advantages:

- Portable horizontal bending machines
- Large bending radii and variable radius control; minimum radius defined by the machine
- Versatile for use with tubes and profiles
- Maintenance-free drives
- Three-phase motor
- Variable bending speed
- The 3-roll drive enables high feed forces and very small radii in a single bending pass

Control technology

Mandrel bending

Convenience control:

- Optimised touch-screen operation and 7" colordisplay
- Materials management for parameterisation of specific tube data and for automatic calculation of the elastic recovery of the material
- Graphical control monitor for keeping the exact positioning as to length and torsional twisting prevents false positioning
- Integrated 2D tube calculation (optional)
- USB and LAN port
- WiFi: Integration in the network via TCP/IP – data exchange via FTP

Premium control:

- Optimised touch-screen operation and large 10,1" colordisplay
- Integrated isometric 3D tube calculation with import of bending data in the program memory
- Isometrics can be saved and adjusted on new bending tasks later
- Real-time operating system, capable of multitasking
- Materials management for parameterisation of specific tube data and for automatic calculation of the elastic recovery of the material
- Graphical control monitor for maintaining the exact positioning as to length and torsional twisting prevents false positioning
- USB and LAN port
- WiFi: Integration in the network via TCP/IP – data exchange via FTP

Control technology of mandrel bending

The control technology of JUTEC mandrel bending systems is unique in its performance and user-friendliness. The intuitive menu navigation and modern hardware of all JUTEC mandrel bending machines are equipped with touch-screen displays. All models can be delivered with comfort control (display 15x9 cm, 7") or Premium PLC with larger TFT display (22x12.5 cm, 10.1") and integrated isometric 3D pipe calculation. The two program controllers can read the available geometric data in the form of Cartesian coordinates as a *.csv file via the interfaces and convert this into bending data. Thus, the controller also has an interface with CAD systems. The menu-driven operation is easy to understand and is additionally supported by help texts. The backup of all machine-relevant data is simple and fast via the USB stick.

Simple data storage via USB stick

All data editable with Excel

Interfaces USB, WiFi, LAN

CAD-compatible

Direct calculation of bending data



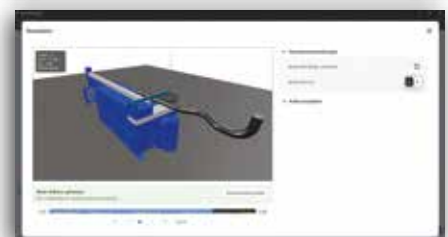
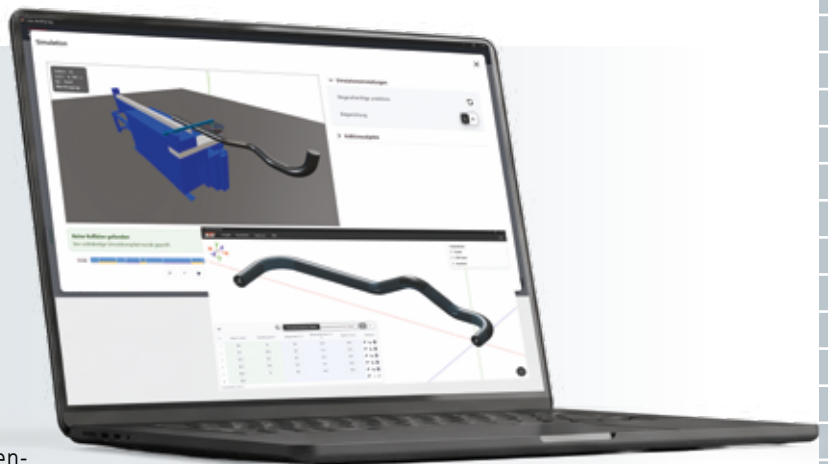
3D Pipe Design Software – JUTEC Bending App

JUTEC Bending App – digital planning, checking and reliable production of 3D tube bending

The JUTEC Bending App enables end-to-end digital preparation of tube bending processes – from the 3D CAD file to the finished tube. Import your STEP 3D data, edit and optimise tube geometries, and carry out simulations of the planned bending process before production begins.

Your advantages at a glance:

- Import 3D STEP data
- Active collision detection for the tubes
- Realistic simulation of bending processes
- Modify and optimise tube geometries
- Transfer bending data directly to the machine (mandrel bending systems) via USB, LAN; Wi-Fi optional
- Production documentation featuring a 3D representation of the tubular component – particularly useful when manufacturing on bending machines without a mandrel
- Check before production begins whether a component can be manufactured on the required JUTEC machine
- Suitable for bending systems with and without a mandrel
- Early assessment of bendability, right from the design and development stage
- Minimise waste and material consumption
- Faster set-up and shorter production times
- Faster costing for contract bending companies



From design to production

The JUTEC Bending App brings together design, work planning and production in one seamless digital process. Tube geometries and bending processes, including potential collisions, can be optimised, simulated and checked in advance. The job can then be sent directly to the machine or produced as a production document.

This means you know what is possible even before you attempt your first bend – saving time and material whilst improving safety in production.



Bending system 5000

Mandrel bending



Bending system 5000 – The cost-effective bending machine with electric drive for narrow bending radii

The bending system with free-standing bending head for difficult geometries, can easily be modified to right-hand and left-hand bending. The pluggable bending tools enable quick retrofitting for bending other tube dimensions. A fast hydraulic system for reducing bending times is an important factor for series production.

The locking clamp pressure for tube clamping can be optimally adjusted. The SPS control with data storage can store over 1.800 programs (can be expanded via USB stick) for bending angle, linear measure and torsion angle for a maximum of 30 bending sequences at one tube length. A freely programmable database up to 200 of materials is available for monitoring the elastic recovery values.

The machine disposes of two operational modes: In "Manual" length and torsion of the bends towards each other are automatically displayed. In the mode "Automat" the data is stored beforehand and a permanent nominal/actual comparison is made during bending.

This way, false positioning within a tolerance window is excluded and thus the user-related error rate is minimised.

General error messages are shown on the big screen with full text. Mandrel retraction can be programmed and the mandrel can be retracted ahead of schedule when a certain bending angle has been accomplished.

The compact drive unit with detachable mandrel holder offers advantages when used at the place of installation as well as for special constructions with huge pipe postponement. Also available as a stationary version with order systems for tools and mandres bars. The cost-effective alternative to the fully controlled CNC machine.



JUTEC Bending System 5000
Mandrel bending as a
welded structure



Excellent flexibility

Possible fields of application:

- Hydraulic piping
- Pipeline construction
- Plant construction, e.g. chemical industry
- Metal construction
- Prototyping

Technical data:

- Bending capacity $\varnothing$ 6 to 50 x 4 mm profiles depending on material
- Bending radius min/max: 10 mm/140 mm
- Bending radii min: $1.5 \times \varnothing$ (standard $2 \times \varnothing$)
- Multi functional machine control setting of bending angle (0.1°)
- Mandrel support lengths 1500/3000/4500/6000 mm (special constructions even longer)
- Bending result 195° max.
- Weight 600-700 kg (depending on type of construction)
- Data transfer via USB and LAN

Optional accessories:

- Automatic mandrel lubrication (minimum quantity)
- Laser-supported tool monitoring
- Hydraulic quick chuck
- Pneumatic rotary stop
- Positioning of length and torsional twisting via automatic braking function or by means of manual catches via pedal switch
- Semi-automatic positioning of length and torsional twisting via stepper motor
- Tube calculation software
- 10" touch screen with integrated tube calculation
- Bending radius up to 250 mm
- Data transfer via WiFi



Bending systems 7000 and 9000

Mandrel bending

Possible fields of application:

- Hydraulic piping
- Pipeline construction
- Plant construction, e.g. chemical industry
- Metal construction
- Prototyping

Technical data 7000 and 9000:

bending capacity 7000: Ø 10 to 70 x 5mm profiles

bending capacity 9000: Ø 10 to 90 x 5mm (100 x 2 mm) profiles depending on material

- Bending radius min/max: 40 mm/250 mm
- Bending radii min: 1.5 x Ø (standard 2 x Ø)
- Multi functional machine control setting of bending angle (0, 1°)
- Mandrel support lengths 3000/4500/6000 mm
- Maximum bending angle: 195°
- Weight 1,600-3,200 kg (depending on type of construction)
- Data transfer via USB and LAN

Optional accessories:

- Automatic mandrel lubrication (minimum quantity)
- Pneumatic quick chuck
- Higher bending radii up to 300 mm
- Positioning of length and torsional twisting by means of manual catches via pedal switch
- Automatic positioning of length and torsional twisting via stepper motor
- Automatic tool retraction— tube calculation software
- 10" touch screen with integrated tube calculation
- Data transfer via WiFi



Bending systems 7000 and 9000 – The cost-effective bending machine for narrow bending radii

For tube dimensions of 10 mm to 100 mm this bending system offers solutions for complex geometries with standard radii of 2xD. Depending on material quality and wall thickness ratio also radii of 1.5xD can be realised suitable for series production. At a tool height of 120 mm there are also sufficient possibilities for special profiles.

The extremely precise and strong electric drive of the bending axis and the stable and rigid construction of the mandrel support and the bending arm contribute also to the desired bending result.

The pluggable bending tools enable quick retrofitting for bending other tube dimensions. The locking clamp pressure for tube clamping can be optimally adjusted. The SPS control with data storage and latest X2X interface can store over 300 programs (can be expanded via USB stick) for bending angle, linear measure and torsion angle for a maximum of 30 bending sequences at one tube length. The bending positions are continuously checked in manual and automatic mode.



Bending system 4800

Mandrel bending



Bending system 4800 – The mandrel bending device with manual chucking

This mandrel bending system with eccentric rapid chucking for tube fixing enables low-cost bending. The compact drive unit with detachable mandrel support offers advantages when used at the place of installation. By means of a position recording directly on the bending axis we achieve optimum bending accuracy. Setting of the bending angle is made easily and quickly via a comfortable touchscreen-control with menu-driven display. With comfort control, two speeds are available, as well as a configurable via bending function to compensate for the material springback. The bending process is significantly shortened by the automatic retraction at the bow end. For more complex bending tasks bending programs can be stored, disposing of an angle sequence of 30 bends max. per geometry. 900 programs can be stored, storage space can be expanded as required via USB. Pluggable bending tools enable quick retrofitting for other tube dimensions. For difficult geometries, the bending direction of the machine can be retrofitted to right-hand or left-hand bending as a standard. The open bending unit allows, for example, bending of handrail frames with one welding seam only. The optional calculation software on the PC determines the cut length for the total geometry as well as traverse path, torsion angle and bending angle for every bend. Mandrel retraction can be programmed and the mandrel can be automatically retracted ahead of schedule when a certain bending angle has been accomplished.

Possible fields of application:

- Hydraulic piping
- Pipeline construction
- Plant construction, e.g. chemical industry
- Prototyping

Technical data:

- Bending capacity $\varnothing$ 6 to 50 mm profiles
- Bending radius min/max: 10 mm/140 mm
- Bending radii 2 x D
- Multi functional machine control setting of bending angle (0.1°)
- Mandrel support lengths 1500/3000/4500/6000 mm (special constructions even longer)
- Bending result 180° max
- Weight 300-500 kg (depending on type of construction)
- Data transfer via USB and LAN

Optional accessories:

- Automatic mandrel lubrication (minimum quantity)
- Digital path measurement for length and torsional twisting (resolution 0.1)
- Remote control of all functions at the carriage (rotational and length arrester)
- Bending radius up to 250 mm
- PC tube calculation software
- Data transfer via WiFi



Biegesystem 15000

Bending without a mandrel

Possible areas of application:

- Energy facilities
- Hydraulics
- Mechanical engineering and specialised machinery manufacturing
- Plant and tubework construction
- Prototype and small-batch production
- Shipbuilding

Technical specifications:

- Tube and profile diameters of up to approx. 160 mm*
- Solid material of up to 100 mm*
- 0.1° bending angle adjustment
- Up to 8 bends per geometry can be programmed
- Touchscreen controls in 14 languages
- Variable speed for forward and reverse operation
- Material characteristics for compensating for springback

*The actual bending capacity depends on the material, cross-section, wall thickness and bending radius.

JUTEC Material Management – 15000 & 10000

To ensure consistent bending results in both single-piece and batch production, different materials and their bending parameters can be stored in the control system. The machine automatically takes into account the material-specific springback; for example, if a 90° angle is required, 90° is simply entered, whilst the necessary overbend is carried out automatically.



Bending System 15000 – The tube bender without a mandrel for large dimensions

The JUTEC 15000 is designed for machining large tube and profile cross-sections. With a bending capacity of up to approximately 160 mm, it is suitable for demanding applications in tubework and plant engineering, mechanical engineering, shipbuilding, and in energy and hydraulic engineering. The robust machine design and powerful drive system enable large workpieces to be bent with a high degree of repeatability.

In bending without a mandrel, the tube is clamped in the bending tool and guided past the counter bearing by rotation. This enables precise bending. Depending on the material and application, a variety of tube and profile geometries, as well as solid material, can be machined. Specialised tools enable you to adapt to individual manufacturing requirements. The menu-driven touchscreen control system enables simple programming and reproducible bending sequences. Bending programs comprising up to 8 bends can be saved and repeated. Material characteristics and a targeted overbending function help to compensate for material-specific springback.



Bending system 10000

Mandrel-free bending



Bending system 10000 – The powerful bending machine for extreme use

The compact type of construction enables precise and repeatable bending up to an outer diameter of 100 mm both stationary and at the place of mounting. The transport is possible with a lift truck or the existing rollers. A strong three-phase motor and a precision gear cater for powerful drive. The machine convinces with its compact and slim design and the very free bending area.

By means of position recording directly on the bending axis we achieve optimum bending accuracy. The bending angle is easily and quickly set via a comfortable and menu-driven user interface in 14 languages with touchscreen control, which guarantees an even more intuitive operation.

For more complex bending tasks, 100 bending programs can be stored, which provide a succession of angles of 8 bends max. per geometry. By the multi-function control, the bending speed for the forward and reverse can be set variable and there is configurable overbend function to compensate for material springback.

Possible fields of application:

- Hydraulic piping
- Signpost construction
- Meander bending
- Prototyping
- Sanitary and heating construction
- Shipbuilding

Technical data 10000:

- Bending capacity: up to 100 x 5 mm,
55 mm solid material profiles
three-phase 400 V
- Bending radius up to 500 mm
 - Multi functional machine control
setting of bending angle (0,1°)
 - Maximum bending angle 240°
 - Safety pedal switch with emergency
stop function
 - Weight 600 kg

Optional accessories:

- Adapter system for tools from the Model
series 3000/6000 with bending radius
from 80 mm, incl. hexagonal shaft 40 mm
- Profile bending device PB20 – for
bending of flat steel bars and square
steel up to 100 x 10 mm max., round
bars up to Ø 20 mm max.
- Small bending device KBV
- Special tools on demand
- Software adaptations for special tasks



Bending system 6000

Mandrel-free bending



Bending system 6000SB and 6000D – The powerful bending machine for workshop and mounting

The compact, mobile type of construction enables precise and repeatable bending up to an outer diameter of 60 mm both stationary and at the place of mounting. A strong three-phase motor and a precision gear cater for powerful drive. By means of position recording directly on the bending axis we achieve optimum bending accuracy.

The bending angle is easily and quickly set via a comfortable and menu-driven user interface with touchscreen control, which guarantees an even more intuitive operation. For more complex bending tasks, 100 bending programs can be stored, which provide a succession of angles of 8 bends max. per geometry.

By the multi-function control, the bending speed for the forward and reverse can be set variable and there is configurable overbend function to

compensate for material springback. With the help of the four material characteristics, the material is automatically turned to the required bending angle, thereby achieving an accurate bending result. The principle "stationary tube and rotating tool" enables bending with lowest possible space requirements.

For thin-walled tubes slide shoes are used for wrinkle-free bending and in order to produce bends, for example from tubes made of stainless steel and copper, with smallest possible deformations.

With the profile bending adaptor PB20, flat steel bars, square steel and round bars can be bent without problems. With the small bender KBV as attachment, extremely small bending radii are possible.

JUTEC Material Management

To ensure consistent bending results in both single-piece and batch production, different materials and their bending parameters can be stored in the control system. The machine automatically takes into account the material-specific springback; for example, if a 90° angle is required, 90° is simply entered, whilst the necessary overbend is carried out automatically.



With RB43 attachment for high-quality roll bending.

Possible fields of application:

- Hydraulic piping
- Signpost construction
- Meander bending
- Prototyping
- Sanitary and heating construction

Technical data 6000SB and 6000D:

Bending capacity 6000SB: Ø 4 to 50 x 4 mm profiles

Current 230V

Bending capacity 6000D: Ø 4 to 60 x 4 mm profiles

Bending capacity 6000DS: Ø 4 to 60 x 5 mm profiles

Three-phase 400V

- Bending radius min/max: 36 mm/280 mm
- Optional: large bending radii up to 500 mm
- Multi functional machine control
Setting of bending angle (0.1°)
- Maximum bending angle 240°
- Actively braked motor
- Hexagonal shaft 40 mm for quick tool change
- Safety pedal switch with emergency stop function
- Weight 110 kg

Optional accessories:

- Profile bending device PB20 – for bending of flat steel bars and square steel up to 100 x 10 mm max., round bars up to Ø 20 mm max.
- Roll bending device RB43
RB43 is mounted onto the hexagonal shaft of the bending axis. By switching over the machine to continuous bending the bending systems serves as a drive unit.
- Small bending device KBV
- Special tools on demand



Bending system 3000

Mandrel-free bending



Bending system 3000 – The mobile high-capacity bending machine

The compact, mobile type of construction enables precise and repeatable bending up to an pipe diameter of 35 mm both stationary and at the place of mounting.

A strong three-phase motor and a precision gear cater for powerful drive.

The motor speed is automatically adjusted, so that the return is carried out at high speed, thereby shortening the cycle time.

By means of position recording directly on the bending axis we achieve optimum bending accuracy and very high repeatability. The adjustment of the bending angle of 0.5° is quick and easy via pushbutton.

The large LCD display significantly shows the angle. The provision to save up to three bending angles allows rational bending of tubes with different bending results.

For transport purposes, the compact unit can be neatly and safely stored in solid transport cases.

The principle "stationary tube and rotating tool" enables bending with lowest possible space requirements. For thin-walled tubes slide shoes are used for wrinkle-free bending and in order to produce bends, for example from tubes made of stainless steel and copper, with smallest possible deformations.

With the profile bending adaptor PB20, flat steel bars, square steel and round bars can be bent without problems.



Simple, fast and gentle on material
and machine - bending with counter roll.



Bending with sliding shoes for wrinkle-free results

Possible fields of application:

- Hydraulic piping
- Prototyping
- Sanitary and heating construction

Technical data:

- Bending capacity $\varnothing$ 4 to 35 mm profiles, CU $\varnothing$ 42 mm depending on material
- Bending radius min/max: 36 mm/150 mm
- Precise digital setting of bending angle
- Bending result 180° max.; for Special applications Endless operation possible
- Hexagonal shaft 40 mm for quick tool change
- Safety pedal switch with emergency stop function
- Current 230 V connection
- Weight 29 kg
- With frequency converter and threephase motor
- 3 bending angle storable

Optional accessories:

- Sliding shoe holder
- Profile bending device PB20 – for bending of flat steel bars and square steel up to 80 x 8 mm max., round bars up to $\varnothing$ 20 mm max.
- Tripod base frame
- Machine case
- Tool box
- Small bending device KBV
- Special tools on demand



Mandrel-free bending



KBV as attachment device



Quick and handy in the bench vice

Possible fields of application:

- Hydraulic piping
- Prototyping
- Sanitary and heating construction

Technical data:

- Bending capacity Ø 6 to 18 mm
- Manual limitation of bending angle
- Bending result 180° max.

Optional accessories:

- KBV with hexagonal holding fixture for bending on model 3000 or 6000
- Machine case
- Length arrester

Small bending device KBV – The convenient manual bending device

The compact, mobile type of construction enables precise and repeatable bending in the bench vice. The device is driven by means of a screw-in handle. A lockable set collar ensures repeatable bending. The exchange of pluggable tools is as easy as can be. The principle "stationary tube and rotating tool" enables bending requiring smallest possible space. For thin-walled tubes slide shoes are used for wrinkle-free bending and in order to produce bends, for example from tubes made of stainless steel and copper, with smallest possible deformations. The optional type of construction with hexagonal holding fixture enables, besides utilisation in the bench vice, also using the driving forces of the bending systems 3000, 6000 and 10000. For this purpose the KBV is simply mounted onto the bending shaft of the machine.



Case set:	Order no.:	KBV accessories:	Order no.:	KBV accessories:
KBVS and tools 8 - 10 - 12 mm in case Order no.: KBVS	0620	Bending tool (6 mm, R 20)	2249	Counter roller (6-12 mm)
	0820	Bending tool (8 mm, R 20)	2251	Counter roller (14-18 mm)
	1025	Bending tool (10 mm, R 25)	KBVL	Length arrester (300 mm)
	1230	Bending tool (12 mm, R 30)	2250	Slide shoe press-on holder
	1442	Bending tool (14 mm, R 42)	3006	Slide shoe (6 mm)
	1545	Bending tool (15 mm, R 45)	3008	Slide shoe (8 mm)
	1648	Bending tool (16 mm, R 48)	3010	Slide shoe (10 mm)
	1854	Bending tool (18 mm, R 54)	3012	Slide shoe (12 mm)

Profile bending attachment PB20



PB20 as attachment device on model 6000



PB20 with model 3000

Profile bending attachment PB20

The profile bending attachment PB20 is the optimum complement for tube bending on models 3000, 6000 and 10000. The device can be installed easily and quickly on the bending shaft without requiring tools. The workpiece is clamped onto the rotary disc with the clamping device and drawn around the bending tool. By means of this system leg lengths to be bent off can be precisely measured in connection with a length arrester and can be bent with good repeatability.

Technical data:

- Bending capacity steel 37: 100 x 10 mm, Ø 20 mm
- Many standard tools available
- Special tools possible
- Sharp-edged tools with bending radius R 2 or 5 mm
- Round tools R 10 to 25 mm for bending max. 260° optional



RB60

Roll bending



Possible fields of application:

- Handrails/lower booms for spiral staircases
- Large tube profile bends
- General metal construction

Technical data:

- Bending capacity $\varnothing$ 10 to 60 mm
- Bending radius min: 300 mm at $\varnothing$ 42,4 mm
- Bending direction: right and left
- Digital bending setting for radius and inclination
- Safety pedal switch with emergency stop function
- Maintenance-free, robust three-phase motor
- Suitable construction site 230 V connection
- Weight 280 kg

Optional accessories:

- Supporting roller – for stabilisation purposes
- Elevating roll – to produce controlled inclination
- MGR – measuring device for determining the correct radius
- MGVI – measuring device for determining the correct inclination based on torsional twisting
- MPW – PC calculation program for determining the correct bending values
- RB4303 – universal bending tool for profiles up to a height of 60 mm
- Tools for special profiles



RB60 – The precise 3-roll bending machine

When developing the compact and mobile horizontal bending machine the focus was clearly on the production of true-to-size helices, like, for example, handrails for spiral staircases. This is the supreme discipline since two parameters influencing each other (radius and inclination) have to be united to a true-to-size geometry in a bend. The interplay between tube calculation on the PC, implementation on the bending machine and the control via measuring devices with final correction of the bending values ensure accurately fitting bending. By only few and simple input in the PC tube calculation program, the local printer provides a print-out and supports the calculation of all necessary bending and correction data for working on the machine. A new powerful drive concept enables continuously variable setting of the bending speed and only requires a 230 V AC power connection. Hardened steel tools as well as surface-protecting hard plastic tools are available. In order to ensure optimum feed also with narrow bending radii, all three bending shafts are driven. Also at daily hard work in the plane when bending tubes and profiles, this drive system has proven its worth. Customers using the bending systems 4800, 5000 and 6000 have the possibility to purchase the roll bending unit without a drive. The roll bending unit with the designation RB43 can be adapted via the flexible shaft on the bending systems 4800, 5000 and 6000. The machines act as a drive unit here.



RB60

Roll bending



1.



2.



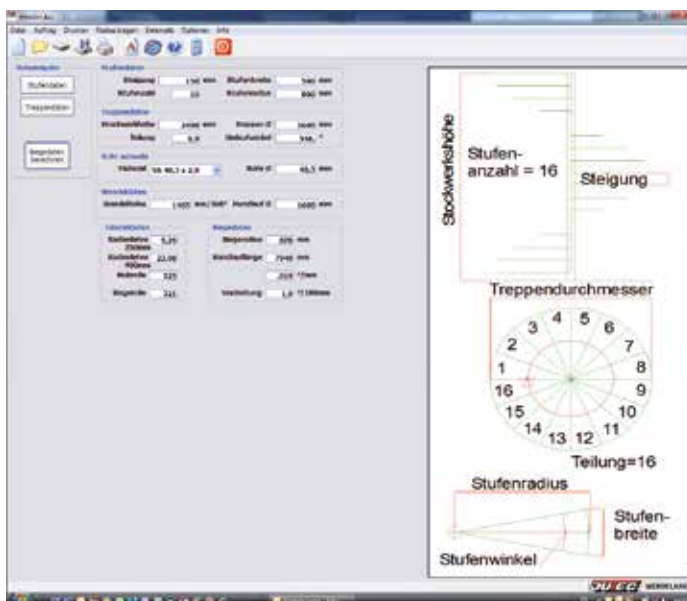
3.

JUTEC measuring devices available as accessories for RB60 in a compact case:

1. Convenient metal case with measuring accessories
2. MGR – measuring device for determining the correct radius
3. MGX – measuring device for determining the correct inclination based on torsional twisting

Bending software JUTEC Wendelass

Wendelass is a calculation software for handrails for spiral staircases and segmental arches. After input of staircase and materials data the machine setting and the control values for the digital measuring devices for radius and inclination are precisely calculated. With this special bending software, the roll bending device RB60/RB43 becomes the perfect handrail bending device.



Roller bending attachment RB43 as an attachment on a machine model 6000

JUTEC bending systems

Special tool constructions

We offer a large stock of suitable bending tools for all standard bending applications and standard bending tasks. We are happy to cater to your individual wishes and special bending tasks. Through our large own CNC lathes and milling machines park, we guarantee short delivery times, even for special tools—all made in Germany.



Mandrel bending tools in all sizes, radius 270



Oval tube bent on device 6000



Mandrel bending tool bend-to-bend (e.g. door handle)



Bending tool for american bend



Special tool PB20



Section tube with special tool on RB60



Mandrel bending tools in all sizes



Mandrel bending tool with ball mandrel, crease smoother and travelling slide rail

Special constructions in operation



Application example Production of a wooden beam



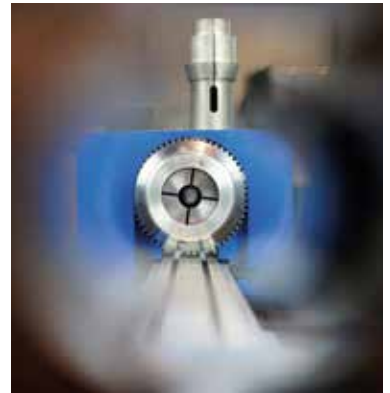
Bending capacity up to 100 mm possible with the mandrel bending device 9000



Mandrel bending machine 4800 with special tool



Automatic chuck



Spiral on 3-roll bending machine RB60



Special construction mandrel bending device 5000 with 3-fold bending tool

JUTEC bending systems

Special tool constructions



Profile 100x12, inner radius 100 mm



Special mandrel bending tool "bend to bend"



Tubing fitted directly to plant and on-board calculations



Machine 6000, profile 50x8, centre radius 60 mm

Special constructions in operation



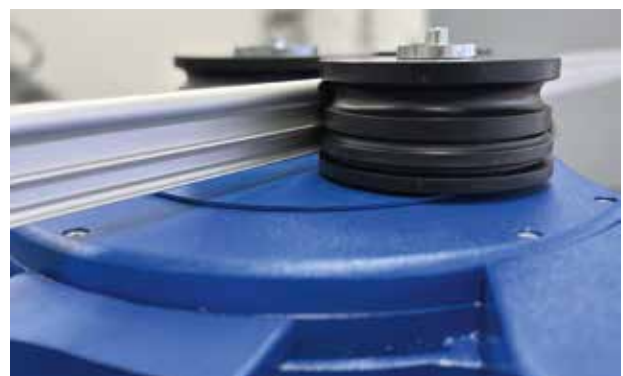
Heat exchanger tube



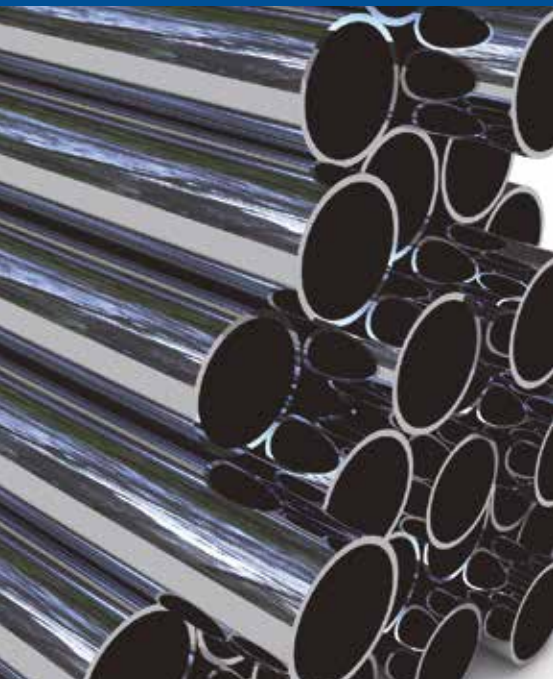
Square profile, 100 mm high



Special construction with automatic opening of profile tools



Special tool for the RB 60 roll bending machine



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The pictures may also include accessories and optional equipment that are not included in the standard scope of delivery. Color deviations are due to printing technology. Errors and misprints are reserved.

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...always one bending ahead