



Profile bending
to perfection

THOMAN

Profile bending machines



Quality – Made in Germany

Contents

Company profile	Page 3
The better concept	Page 4
Profile bending machine RB3-L	Page 5
Profile bending machine RB3	Page 7
Profile bending machine RB4	Page 9
Profile bending machine RB6	Page 11
CNC-S track control	Page 13
CNC-S control software	Page 15
NC controllers	Page 17
Auto. radius measurement, R-Control	Page 18
3D profile bends	Page 19
Training and workshops	Page 21
Application areas	Page 22
Overview of technical data	Page 23



A strong partner for all bending work

Company profile

Thoman Biegemaschinen develops and manufactures machines and processes for bending tubes and profiles produced from steel or aluminium.

We have become a technologically leading company in the field of highly flexible profile bending machines for steel and aluminium profiles thanks to our innovative spirit, determination and consistency. In addition to the expansion and further development of our machine range, an important sphere of our activity lies in the development, production and testing of customer-specific bending tools and bending processes.

Development, manufacturing and test departments are all under one roof at Thoman. This enables us to provide the best possible support to our customers, to react quickly, to realise short delivery times and to offer tried-and-tested, reliable solutions.

In Thoman you have chosen a strong partner who will provide you with competent support for any questions concerning bending technology.

Benefit from our experience



The better concept

Good to know

Type RB profile bending machines impress with the highest flexibility, performance and perfect bending results.

The unique machine concept enables the variable adjustment of the lateral roller spacing. The bending machine can be perfectly set up for any profile dimensions. The configuration and dimensions of the rollers can be ideally tailored to suit the current profile to be bent. The pressing forces to be applied to the profile remain low and the best possible bending quality is achieved with minimum profile deformation.

The high flexibility and bending performance of the machine in combination with the most modern CNC control technology make the type RB profile bending machines what they are.

The most powerful and best bending machines in their class.





Profile bending machine RB3-L

The RB3-L profile bending machine offers a high bending performance with compact dimensions. Three individual, hydraulically driven rollers and 5.5 kW drive power guarantee the high productivity of the machine. Very small bending radii can be produced after just the first pass through the rollers. The spacing of the lateral rollers can be adjusted variably from 330 to 600 mm.

The RB3-L is the first choice if small and medium profiles are to be bent with high quality, precision and efficiency. The RB3-L is available with NC section control or CNC track control.

Technical data

Roller bending performance	5.5 kW
Driven rollers	3
Lateral roller spacing	330-600 mm adjustable (200 optional)
Shaft length	200 mm (300 optional)
Shaft diameter	65 mm
Pressing force	12 t
Bending performance (S235)	Round tube 90x2; Rectangular section tube 60x60x4
Control	Manual, NC, CNC

Powerful and compact

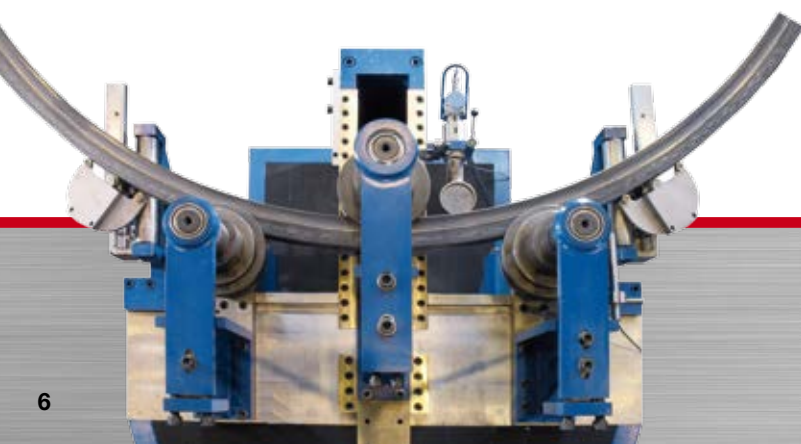


Endless possibilities

Good to know

With type RB profile bending machines, the bent profile does not run over the machine but instead within the free space. A collision of the bent profile with the machine or machine shaft supports is excluded.

The best possible ergonomics and safety for the machine operator are guaranteed.





Profile bending machine RB3

The RB3 profile bending machine offers impressive bending performance in combination with unparalleled flexibility.

The spacing of the lateral rollers can be adjusted variably from 380 to 960 mm. The RB3 is suitable for a great variety of different bending tasks and is the first choice when versatility and performance are required.

The high flexibility and numerous options make the RB3 one of the most flexible and powerful profile bending machines in the world.

Technical data

Roller bending performance	7.5 kW
Driven rollers	3
Lateral roller spacing	380-960 mm adjustable (200 optional)
Shaft length	200 mm (300 optional)
Shaft diameter	65 mm
Pressing force	25 t
Bending performance (S235)	Round tube 114x4; Rectangular section tube 80x80x6
Control	Manual, NC, CNC

Powerful and extremely versatile



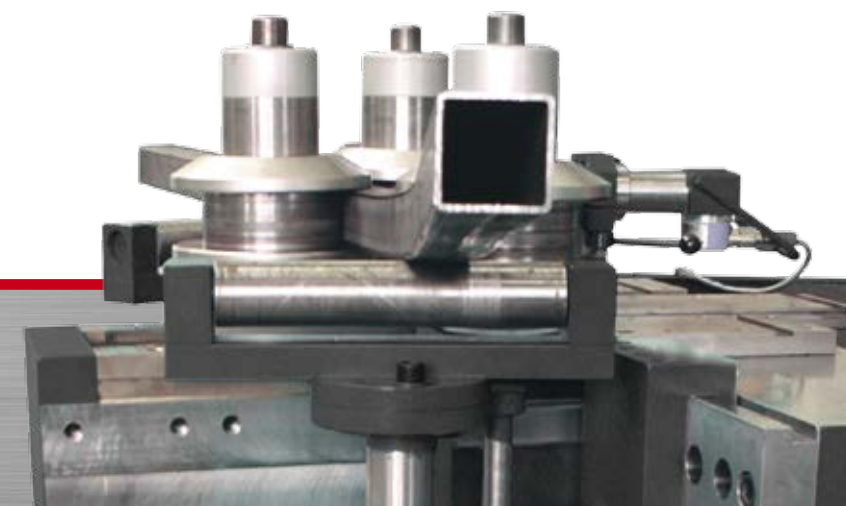
Quality – Made in Germany

Good to know

With type RB profile bending machines, the tool sets are a modular design made from individual discs. The roller discs can be expanded and combined arbitrarily. Combinations of roller discs made from steel and plastic are also possible without problems.

The modular tool construction enables tool sets to be perfectly configured for the various different profiles or requirements with a small selection of roller discs.

You can react quickly and flexibly, save tooling costs and achieve the best possible bending quality.





Profile bending machine RB4

The profile bending machine RB4 unites high bending performance with leading-edge CNC control technology. With a bending force of 38 t and variably adjustable spacing of the lateral rollers, the RB4 is also suitable for bending heavy profiles precisely and with high quality.

The RB4 is the first choice when high bending performance is required simultaneously with a high level of flexibility.

Technical data

Roller bending performance	15 kW
Driven rollers	3
Lateral roller spacing	436-1100 mm adjustable
Shaft length	300 mm (500 optional)
Shaft diameter	85 mm
Pressing force	38 t
Bending performance (S235)	Round tube 168x4; Rectangular section tube 100x100x6
Control	Manual, NC, CNC

Performance and precision guaranteed



Powerful drives for powerful

Good to know

With type RB profile bending machines, every roller is individually and directly driven. No chain drives or sliding clutches are used. The speed is automatically adapted to the diameter of the rollers as well as the profile width and the bending radius. Damage to the profile is avoided and the greatest possible feed force is achieved. The drives offer the highest torque, are maintenance-free and overload-proof.





Profile bending machine RB6

The RB6 profile bending machine is the most powerful and heavy-duty bending machine from Thoman. With 22 kW power, a pressing force of 70 t and extremely high-torque drives, the RB6 also has sufficient reserves to be able to bend very heavy-duty profiles.

The variably adjustable lateral roller spacing makes the RB6 profile bending machine significantly more flexible than conventional bending machines of this weight class whilst also offering a higher performance.

Technical data

Roller bending performance	22 kW
Driven rollers	3
Lateral roller spacing	630-1230 mm adjustable
Shaft length	300 mm (500 optional)
Shaft diameter	125 mm
Pressing force	70 t
Bending performance (S235)	Round tube 180x6; Rectangular section tube 120x120x10
Control	Manual, NC, CNC

Maximum bending performance
and top bending quality



Precision guaranteed

Good to know

Bending machines from Thoman work with the most modern control technology from Bernecker & Rainer. B&R is the largest international privately run specialist in automation technology and offers a wide and innovative range in all areas of automation.

Control technology from B&R meets the highest of industrial demands, has been tried and tested in thousands of applications and is of the highest quality. Parts availability and interchangeability is guaranteed for many years.



Innovative and future-proof



CNC-S track control

The creation of programs has never been easier or faster or the bending results better than with the new CNC-S control from Thoman.

Program entry is carried out on a mobile operator terminal. The operator terminal encompasses a high performance industrial PC with 15" touch screen. Design and ergonomics satisfy the highest demands.

The control is open and offers all of the options of the Windows world. Integration into existing networks or remote access is possible without problems.

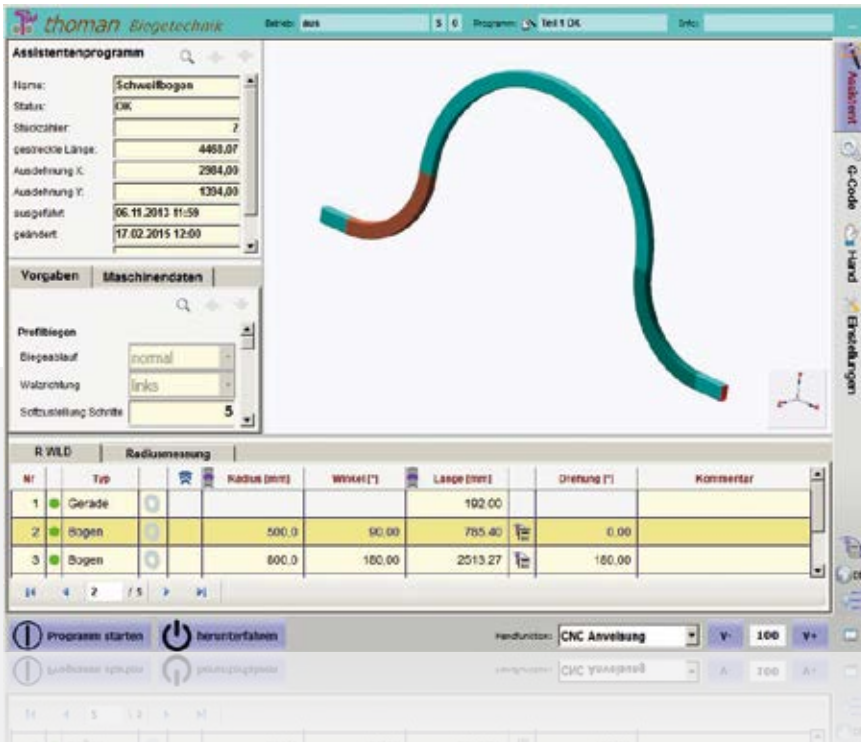
The operator terminal is adjustable in height and angle and has a drawer for drawings or tech. documents. Order-related documents are therefore always in sight of the operator.



Technical data

Operator terminal	Mobile with drawer for technical documents or drawings
Design	Modern flat design with brushed and anodised aluminium front
Control	Industrial PC with 15" touch screen display, angle and height adjustable
Operating system	Windows-embedded multilingual Ger./Eng.
Software	Thoman CNC-S

Take control of your success



Functions that impress

- Simple program generation through entry of length, radius and angle
- 3D display of the bending contour
- Turning, zooming, rotating of the bending contour
- Tabular display of all contour elements
- Technology parameters for every contour element
- Automatic generation of the CNC control program
- Targeted bending with advance calculation of the elastic material recovery
- Bend contours in single or multiple passes
- Bend contours sequentially or incrementally
- Bend contours with changing bending direction (S-bends)
- Linking of arbitrary documents with programs or tools
- Multi-level rights management
- Database for programs, tools, profiles and characteristic bending curves
- DXF import, insertion, deletion and merging of contour elements
- and much more



A generation ahead



CNC-S control software

Create bending programs extremely easily and efficiently with the innovative control software.

Simply stipulate the radius and angle or length of the contour element. Bending contours with several bending radii or transitions e.g. ellipses, arches, S-bends, are created within seconds. The bending contours are shown graphically and the CNC control program automatically generated whilst taking the elastic material recovery into account.

Highest precision and perfect transitions for the bend radii are achieved. Programming knowledge of G-code is not necessary.

The CNC-S control impresses through simple operation and perfect bending results both with individual part manufacturing and with serial manufacturing.

Perfection made easy



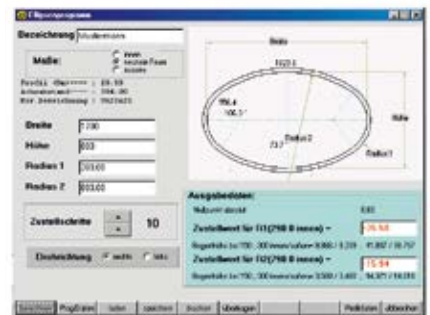
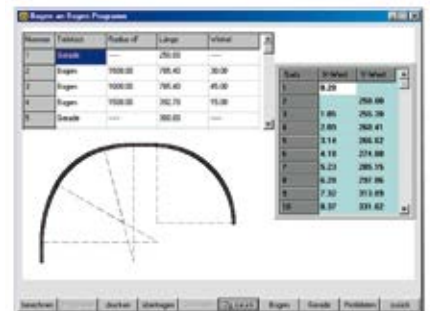
Bending software for NC machines

The roller bending software for NC controlled bending machines enables bending programs to be created on an external PC or Notebook.

After entering the bending radius and angle, the bending contour is displayed graphically. Bends with straight ends or bend contours with multiple bend radii can be created.

The software automatically generates an NC control program for the bending machine. The application of the radius transitions takes place in multiple steps, whereby buckle-free radius transitions are attained.

The program calculation takes place with consideration to the elastic recovery, so that high precision is attained right away. The NC control program generated can be transferred online to the NC control PP41.





NC section control



It doesn't always have to be CNC. As an alternative to CNC-S control, the type RB profile bending machines are also available as an NC controlled version with one or two controlled axes.

The single-axis control enables high repetition accuracy and precise positioning of the bending roller and is suitable for simple, bending tasks that do not require the roller feed to be controlled.

The two-axis NC control system controls the application of the bending roller as well as the roller feed. Bending contours with multiple bend radii or straight ends can be bent with high repetition accuracy and program control. The controller is equipped with an interface for connection to a PC or Notebook. Bending programs can be created by means of the PC roller bending software and transferred online to the machine control.

Type	PP15	PP41
Operator terminal	Mobile	Mobile
Display	4x20 characters	12x9 cm display
Controlled axes	X = feed	X = feed Y = Material feed
Positioning	Section control	Section control
PC connection	No	Yes

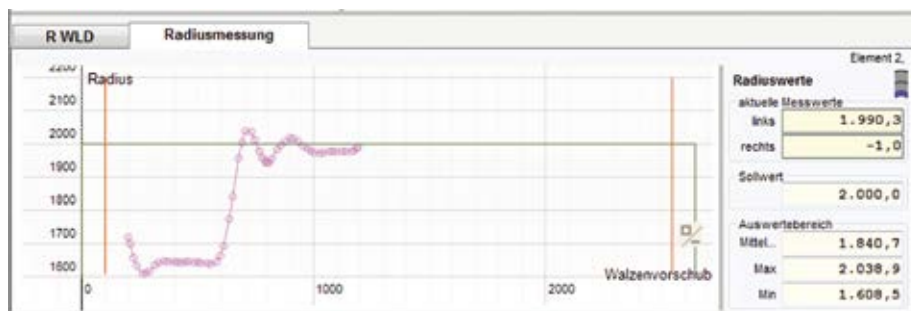
NC controlled – also a sound choice



Auto. radius measurement, R control

Type RB profile bending machines offer unique facilities and options. One highlight is the fully automatic radius measurement and control system R-Control. The system measures the bending radius fully automatically and corrects the application of the pressing roller autonomously. Deviations in the bend radius are detected early and corrected automatically.

In particular in serial manufacturing and with fluctuations in material hardness, productivity is often higher by factors with a simultaneous increase in precision. We would be delighted to assist you with the application and use of the system or would be happy to show you the system with an extensive demonstration in our premises.



R-Control



3D profile bends



In bodywork construction, three dimensional curved profiles are often required for vehicle cabins, rollover cages, A-pillars or door profiles.

With type RB profile bending machines and CNC controlled support rollers, you can also bend in 3D with precision and the highest degree of productivity. Precision fit and compliance with gap dimensions are guaranteed.

Bending machines from Thoman are well proven and are in daily use with renowned manufacturers and also continue to bend with the highest precision and reliability after years of service.

We would be happy to assess the feasibility of your bending tasks.



Endless possibilities

Good to know

Special bending tasks require special solutions. Type RB profile bending machines offer numerous options for expansion and enhancement:

- Fully automatic radius control with R control
- Fourth roller or smoother
- Supports for the machine shafts
- Pressing device
- Hydraulic support rollers
- Hydraulic calibration rollers
- 3D bends, CNC-controlled
- Spiral bending device
- Coil bending device
- Mandrel bending device
- and much more

With the type RB profile bending machines you can be sure that you are perfectly equipped for almost any bending task. Just ask us, we would be delighted to provide you with advice on equipment and possibilities.





Training and workshops

When developing the bending systems and control software we place great value on simple and intuitive operation.

However, professionally trained personnel remain the nuts and bolts of efficient use of the bending system. In our training and demonstration rooms we instruct and train you within the framework of machine acceptance and expanded workshops. Training is highly practical and is orientated directly towards your machine.

We are also happy to conduct the training using your customer-specific profiles. In this way bending programs for your products can be created and tools and processes extensively tested as early as the training stage. This guarantees secure, efficient and simple commissioning of the bending system in your premises.

Profit from our experience



Application areas

Gut zu wissen





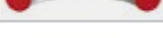
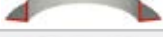
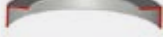




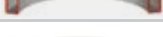




Bending machines from Thoman are at home in many industries. The following examples only constitute a brief extract of the spectrum of applications.

- Machinery construction, conveyance equipment
- Metal construction, plant construction
- Prototype bending companies
- Vehicle construction, utility vehicle construction
- Facades, canopies and window construction
- Advertising technology and trade fair equipment
- and much more

Leading organisations place their trust in bending technology from Thoman. Just ask us, we would be happy to pass on reference details.



Profile bending machines type

		RB3-L	RB3	RB4	RB6
	1	80x15 Ø 800	120x15 Ø 1200	120x30 Ø 1200	160x30 Ø 2000
	2	100x30 Ø 600	160x30 Ø 1000	260x30 Ø 1000	200x40 Ø 900
	3	40x40 Ø 600	60x60 Ø 800	80x80 Ø 1200	90x90 Ø 2000
	4	45 Ø 600	70 Ø 500	90 Ø 1500	100 Ø 2000
	5	60x5 Ø 800	80x8 Ø 1200	100x10 Ø 2000	120x12 Ø 2000
	6	60x5 Ø 800	80x8 Ø 1200	100x10 Ø 2000	120x12 Ø 2000
	7	80x9 Ø 800	100x11 Ø 1000	120x13 Ø 2000	140x15 Ø 1500
	8	80x9 Ø 1000	100x11 Ø 1200	120x13 Ø 2000	140x15 Ø 1500
	9	60x60x4	80x80x6	100x100x6	120x120x10
	10	80x40x4	120x60x4	140x80x4	160x80x10
	11	80x40x4	120x40x4	140x60x4	180x80x8
	12	UPN 100 Ø 800	UPN 160 Ø 1000	UPN 240 Ø 1200	UPN 260 Ø 2000
	13	UPN 100 Ø 800	UPN 160 Ø 1000	UPN 240 Ø 1200	UPN 260 Ø 2000
	14	IPE 120 Ø 1000	IPE 160 Ø 1000	IPE 180 Ø 1200	IPE 220 Ø 2000
	15	IPE 80 Ø 1000	IPE 120 Ø 1200	IPE 140 Ø 2000	IPE 180 Ø 3500
	16	80x4 Ø 1000	114.3x4 Ø 2000	168.3x4 Ø 3000	180x6 Ø 3000
Resistance torque, max.	cm ³	20	45	90	180
Shaft diameter	mm	65	65	85	125
Shaft length * optional	mm	200 300*	200 300*	300 500*	300 500*
Axis spacing * optional	mm	330-600 200*	384-960 200*	436-1080	630-1230
Speed	U/min	0-16	0-16	0-14	0-8
Force	t	12	25	38	70
Power	kW	5.5	7.5	15	22

The minimum achievable bend radii are dependent on various different factors such as tool structure, spacing of the lateral rollers, profile geometry, wall thicknesses, poss. fillings as well as the degree of profile deformation permitted. The key values cited are intended as a guide and may deviate from values achievable in practical situations. Subject to technical changes.

The first choice in profile bending technology



Thoman Biegemaschinen oHG

Mittelmatten 1; Am Sportplatz
79206 Breisach-Oberrimsingen
Germany
Phone. +49 7664 402858-0
Fax. +49 7664 402858-99
biegen@thoman.de
www.thoman.de

