



SECTION BENDING



**Technology  
makes the  
difference**

# RB3-L

*Compact and flexible*

## Use

RB3-L is used everywhere where aluminium or steel sections are rolled.

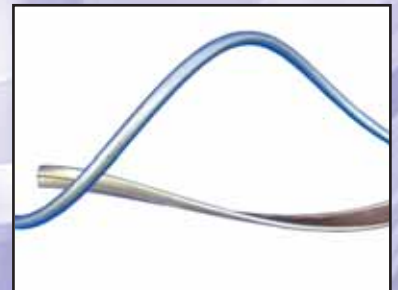
Due to its variable centre distance and its modular tool system, the machine can be optimised to the requirements of the section to be rolled.

For processing lightweight sections the axes can be adjusted to a minimum distance of 330 mm. For heavier sections they can be set to 600 mm.

Despite its compact dimensions the RB3-L provides a sound design and 5,5 kW roll bending performance. It is sufficiently strong to roll even steel sections with a section modulus of up to 20 cm<sup>3</sup>.

In both stairs manufacture and metal working the RB-L and the Wende-Mat are capable of curving accurate handrails for newelled and spiral stairs.

The RB3-L with its compact dimensions offers maximum flexibility and performance.



## Features

- Machine and control terminal are mobile and moveable
- Operation by means of a manual control unit with a magnetic holding unit is possible from a distance of 6 m
- Advanced and powerful control and drive concept
- A fourth roller or guiding block can be used
- Modular tool system
- Shafts are supportable
- High roll bending performance

## Options

- Automatic radius measuring system
- Fourth roller is manually or hydraulically adjustable
- Supports for the shafts



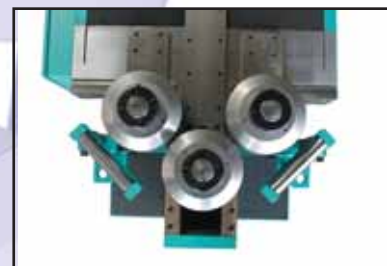
Mobile control panel with NC control



**5,5 kW Bending-Power**



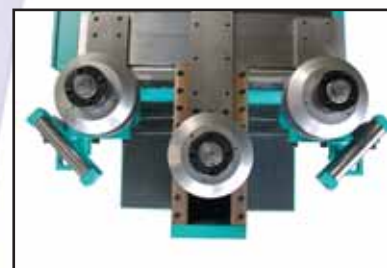
Flexible hand control unit



RB3-L with 330 mm distance between centres



RB3-L with special rollers



RB3-L with 600 mm distance between centres

## Technical parameters

Pressure force of central roller	12 tonnes	
Speed stepless	0-16 rev/min	
Torque	Rated torque	Max. torque
	Continuous operation	
	3 x 920 Nm	3 x 960 Nm
Driving power	5,5kW	
Shaft diameter	65mm	
Shaft length	160mm	
Stroke X-axis	200mm	
Front rollers adjustable	330-600mm	
Length / width / height	1100/1000/1200mm	
Weight	ca. 750 kg	

# RB3

*Superior as to performance and precision*

## Use

Due to its high precision, flexibility and power the RB3 section bending machine can be used in every industry. Its particularly strong hydraulic drives and high roll bending performance of 7.5 kW as well as its flexible machine design make the RB3 machine suitable for any application.

A high roll bending performance ensures the excellent productivity of the machine. Only one pass is required to bend a great many sections to finished dimensions without requiring any labour and cost-consuming back and forward rolling. The machine is suited to bend steel sections with a section modulus of up to 60 cm<sup>3</sup>.

The RB3 machine offers sufficient performance reserves and flexibility for your current and even future bending projects, no matter whether you wish to bend filigree aluminium sections or heavy steel sections



Series



Single items



Identical parts

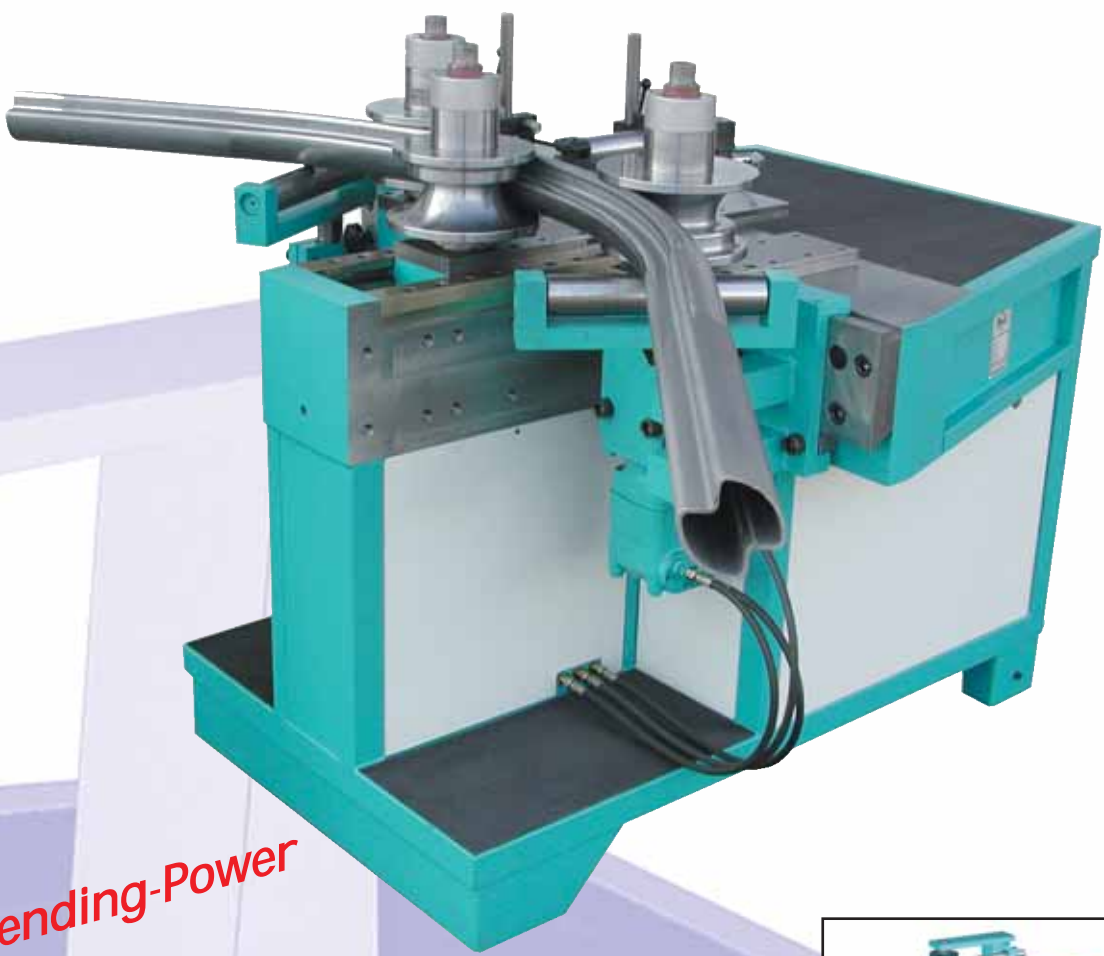
## Features

- Machine and control terminal are mobile and moveable
- Operation by means of a manual control unit with a magnetic holding unit is possible from a distance of 6 m
- Advanced and powerful control and drive concept
- A fourth roller or guiding block can be used
- Modular tool system
- Shafts are supportable
- High roll bending performance



## Options

- 3rd CNC controlled axis
- Automatic radius measuring system
- Hydraulic support and guide rollers, optionally with digital display of the actual position
- Adjustable calibrating roller for bending L-sections
- Fourth roller is manually or hydraulically adjustable
- Supports for the shafts



**7,5 kW Bending-Power**



Special design with 400 mm shaft length and shaft support



RB3 with standard tools



RB3 with special rolls for frame sections

## Technical parameters

Pressure force on central roller	25 tonnes	
Speed stepless	0-16 rev/min	
Torque	Rated torque	Max. torque
	Continuous operation	
	3 x 1250 Nm	3 x 1600 Nm
Driving power	7,5kW	
Shaft diameter	65mm	
Shaft length	200mm	
Stroke X-axis	250mm	
Front rollers adjustable	380-1140mm	
Length / width / height	1400/1300/1300mm	
Weight	approx.1300 kg	

All values refer to standard sizes.  
 For special applications the shaft diameter and shaft length may be increased.  
 In most cases existing rollers can be retained and used.

# RB4

*Flexible with maximum performance*

## Use

The section bending machine RB4 boasts a particularly high roller bending capacity (15 kW) in combination with the extremely flexible machine design.

Steel sections with a section modulus of up to  $W_x = 100 \text{ cm}^3$  can be bent. Thanks to the variable spacing of the front rollers, the machine is outstandingly suitable for bending medium to large aluminium and steel sections. Damage to the section due to excessive press forces of the rollers is avoided.

## Features

- Machine and control terminal are mobile and moveable
- Operation by means of a manual control unit with a magnetic holding unit is possible from a distance of 6 m
- Advanced and powerful control and drive concept
- A fourth roller or guiding block can be used
- Modular tool system
- Shafts are supportable
- Very high roll bending performance

## Options

- 3rd CNC controlled axis
- Automatic radius measuring system
- Hydraulic support and guide rollers, optionally with digital display of the actual position
- Adjustable calibrating roller for bending L-sections
- Fourth roller is manually or hydraulically adjustable
- Supports for the shafts



15 kW Bending-Power

## Technical parameters

Pressure force on central roller 35-40 tonnes  
 Speed stepless 0-16 rev/min

Torque	Rated torque	Max. torque
	Continuous operation	
	3 x 2250 Nm	3 x 3000 Nm

Driving power	15kW
Shaft diameter	85mm
Shaft length	300mm
Stroke X-axis	400mm
Front rollers adjustable	436-1320mm
Length / width / height	2000/1640/1400mm
Weight	2600 kg

All values refer to standard sizes.  
 For special applications the shaft diameter and shaft length may be increased.  
 In most cases existing rollers can be retained and used.



RB4 with steel section



RB4 with shaft supports

## **CNC path control with 15" touch screen**

*First choice if you want the best.*

- State-of-the-art operating and control technology
- Very simple intuitive machine operation and programming
- Highest productivity and precision
- Best bending results and clean radius transitions without drag marks
- Sequencing of any number of bending radii
- Controlled axes, consequently no load-dependent deviations
- Real path interpolation, infinitely variable path velocity
- Teach-in programming
- Manual remote control with magnetic holding unit
- Full Windows functionality with Windows XP Professional
- Writing and filing of programs directly on the machine control
- Open, upgradeable system



## *Options*

- 3rd all-purpose CNC axis
- Automatic radius measuring system
- Remote diagnosis online via the internet for software update or machine diagnosis
- Network connection for PC network for data backup on network server
- Special bending software available according to customer specifications, e.g. special bending software for roofs of indoor swimming pools or archways, respectively bends with left/right bend sequence

Nummer	Teilstück	Radius	Innenlänge
1	Gerade		200.00
2	Bogen	500.00	408.41
3	Bogen	1000.00	1602.21

# Software

*The right software makes rolling easy*

Whether calculating the precise adjustment for simple curves or automatically creating complete roll-bending programs with several radii. The user simply enters the length and angle of the bend. From this, the program automatically produces a suitable rolling program for controlling the axes.

The software is not just a calculation program, but also a development environment and database for filing and administering rolling programs, material and tool catalogues.

Any number of programs can be created and filed.

*Program modules:*

**Basic module:**

Creation and filing material catalogues (correction bends), tool catalogues and simple rolling programs. Calculating the program stages for rings and curves. Transferring and reading roll-bending programs.

**Bend to bend:**

For the easy design of programs for bends with virtually any rolling sequence.

**Bend in bend:**

Roll-bending in several roller passes with variance comparison. Permits accurate rolling of materials with unknown behaviour

*Special bending software (optional):*

**Approximated ellipse:**

Designing of bending programs for approximated ellipses by simply entering width and height.

**Spiral:**

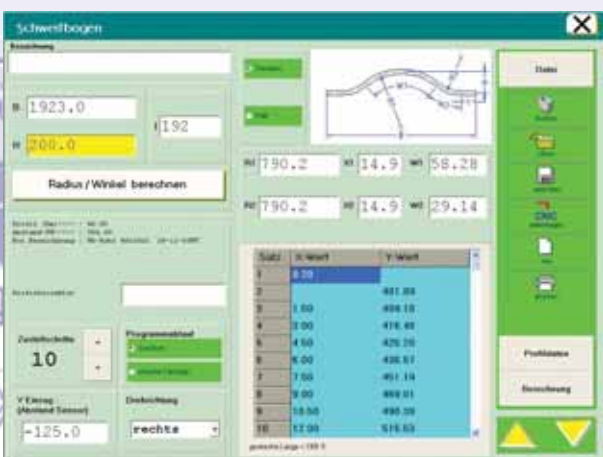
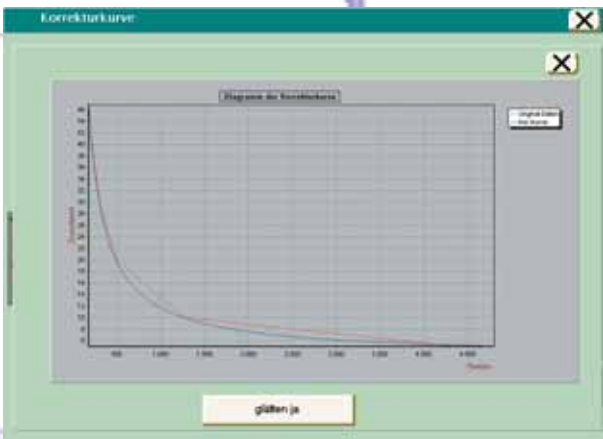
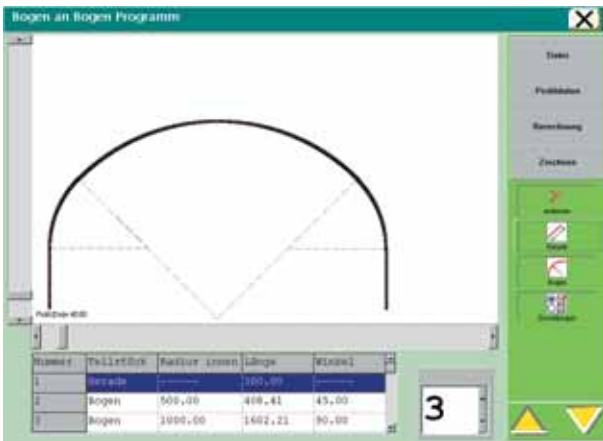
For calculating all the required data to produce accurate spirals.

**Curves:**

For calculating bending programs, e.g. archways with left-right bend sequence. Perfect, distortion-free bending radius transitions are achieved in alternating bending direction.

**Roofing for indoor swimming pools:**

The program automatically calculates all bending programs 1-n which are required for the production of an indoor swimming pool roof.



## **NC linear path control**

*Maximum functionality at the best price-to-performance ratio*

- Easy operation with a 12 x 9 cm display and plain text guidance
- PC interface for programming and storage of bending programs on the PC or at the programming terminal
- Teach-in-programming
- Speed of front and central rollers is steps and separately variable



Control panel - NC control with PC interface or programming terminal

## **Manual control**

*When less is more*

- When simple bending work without transitions from a radius to straight line is required
- Digital display of position of stroke axis 1/100 mm

(not shown)

## **Hand remote control unit**

Whether manually, NC or CNC controlled: the machine can be operated from a distance of 6 m by means of our hand control unit with magnetic holding device.

Hence, a number of bending operations are possible without the need of having a second person "to hold".

This means time and labour savings and an optimum handling.



# Bending performance

	RB3-L	min Rad.	RB3	min Rad.	RB4	min Rad.
	20x2 80x4	80 500	114x5	700	160x5	1500
	45	300	70	500	90	750
	80x60x4	1000	100x100x5	1500	120x120x5	2500
	40x40	300	60x60	400	80x80	600
	100x30	300	160x40	500	260x30	500
	80x15	400	120x20	600	120x30	600
	80	400	100x100x11	500	120x120x12	1000
	80	500	100x100x11	600	120x120x12	1000
	60x60x5	600	80x80x8	800	100x100x10	1000
	60x60x5	400	80x80x8	600	100x100x10	1000
	100x50x6	500	160x65x7,5	650	240x85x9,5	850
	100x50x6	400	160x65x7,5	800	240x85x9,5	1000
	80x42	500	120x58	600	140x66	1000
	100x50	500	120x120	1000	140x140	1500
Max. Wx steel sections	20 cm <sup>3</sup>		60 cm <sup>3</sup>		100 cm <sup>3</sup>	
Max. Wx aluminium sections	30-75 cm <sup>3</sup>		90-150 cm <sup>3</sup>		150-250 cm <sup>3</sup>	

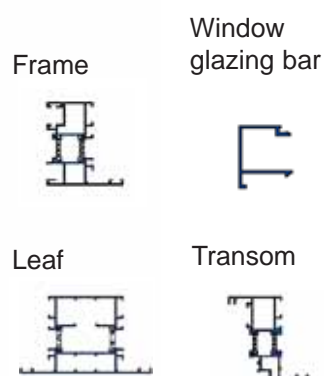
The table just depicts a selection of options and alternatives. Contact us if you deal with special sections or requirements.

Bending machines manufactured at Thoman exhibit a sound design and strong hydraulic drives.

Due to the extremely high torque of the hydraulic drives, a number of sections can be rolled to the finished dimensions in an easier and faster process than experienced to date.

For heavy or very high sections, the driving shafts can be additionally supported at the top end.

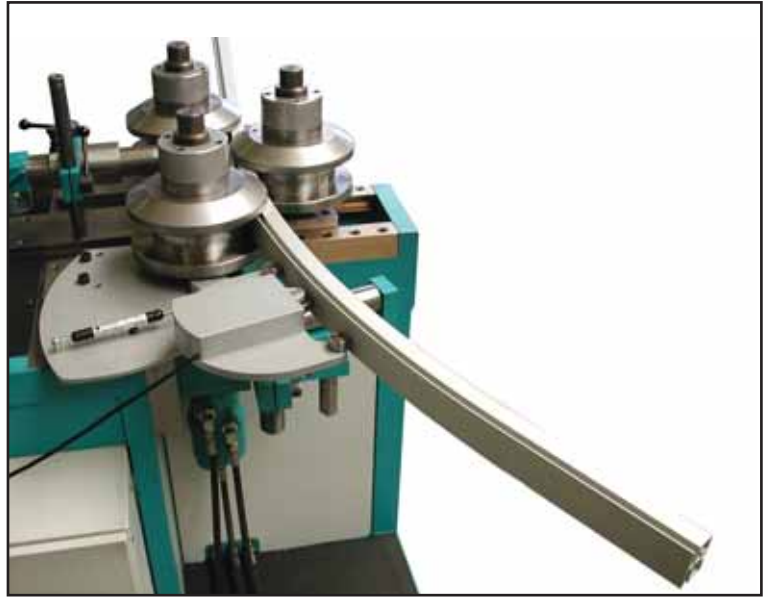
This ensures much higher precision and productivity results.



# *Your advantage: Better bending through superior technology.*

## **Automatic radius measuring**

- Automatically measures and corrects the bending radius of the bend
- The available bending radius is directly displayed on the control
- Deviations in the bending radius due to different material hardness is detected and automatically corrected by the measuring system.
- **The advantages are true-to-size parts as well as extremely economic production and high dimensional accuracy.**



RB3-L with automatic radius measuring

## **3rd CNC controlled axis**

- Permits the controlled bending of 3-dimensional bending components.
- Completely integrated and programmable in the control
- Precision 1/100 mm
- To assist unsymmetrical sections or L-sections
- **You benefit from additional possibilities and a considerable increase in the range of applications of the machine**

## **Hydraulic support and guide rollers**

- To assist unsymmetrical sections or L-sections
- Digital display of the actual position (optional)
- Manual control using inching switch
- Adjustable calibrating roller can be used for bending L-sections (optional)
- Simple and easy operation is ensured even with high approach forces.



RB3 with 3rd CNC controlled axis

## 3rd CNC controlled axis, can be swivelled

- Permits the controlled bending of bending components with left-right bend sequence in one pass
- Permits the controlled bending of 3-dimensional bending components.
- Completely integrated and programmable in the control
- Precision 1/100 mm
- Can be used vertically and horizontally.
- Can be swivelled during the process in the vertical or horizontal working direction.
- **A unique and exceptionally economic possibility to produce bends with alternating bending direction.**



RB3 with universal axis swivelled down (vertical direction)



RB3 with universal axis swivelled up (horizontal direction)

## Additional options

- Fourth roller is manually or hydraulically controllable
- Supports for the shafts with very high or heavy sections
- Safety housing for fully automatic operation
- Spiral facility for the production of heat exchangers
- Many additional possibilities

Our objective is to fully utilise the possibilities offered by section bending technology. In this regard we are constantly developing new systems and solutions. The advantages are more economic production, higher quality for your products as well as additional possibilities with regard to design and technique.

# ***Benefit from our experience***

We have many years of experience in the bending of aluminium and steel sections. We are consequently able to assist you in a competent manner.

During the development and design of your section systems we can assist and advise you with regard to the relevant bending technology criteria.

We develop solutions for and with our clients. Bending trials can be carried out in the initial stages for special applications to determine the best solution for your bending application.

We develop and manufacture all bending tools at our own facilities. We are thus able to ensure short delivery term and a high of quality standard.

You will receive thorough training on your machine and with your sections.

**So that you can be sure of receiving a high-performance, safe and optimum solution.**





Whether for vehicle, window or façade construction, conveying technology, general machine building, stair construction, aerospace, exhibition building, steel construction, aluminium construction, advertising technology and illuminated signs, commission bending, supply industry, carriage building, boatbuilding, cabin building, elevator systems, conservatories, roofs for indoor swimming pools, etc., there are no limits to the versatility of the machines.





Your partner in the  
bending industry



For more than 25 years Thoman Maschinenbau has been developing and manufacturing bending machines and bending systems.

The company is able to cover a wide range of bending requirements by supplying flexible and universal bending centres, including mandrel bending machines with several controlled axes up to CNC section bending technology. Thoman stands for quality, innovation and tailored solutions for users.

Our customers include large companies as well as small and medium-sized firms.

Thoman's bending machines have stood the test in a great many of applications for many years.

From the very beginning we work closely together with our customers to offer the best possible solution.

It is part of our business philosophy to support our customers at any time and provide them with our expertise and experience.

For you to be sure of making the right choice.

## **Franz Thoman Maschinenbau**

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