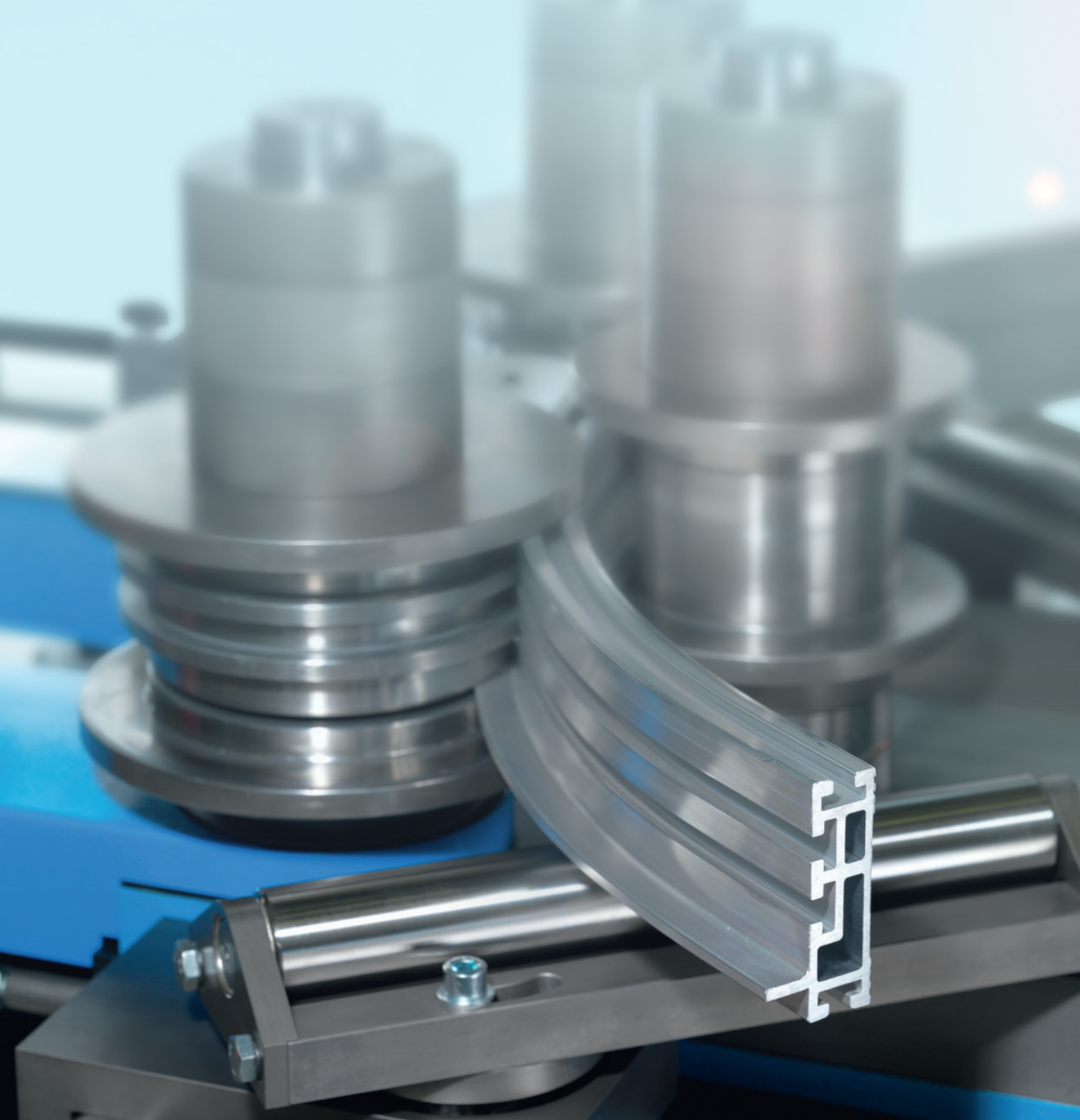
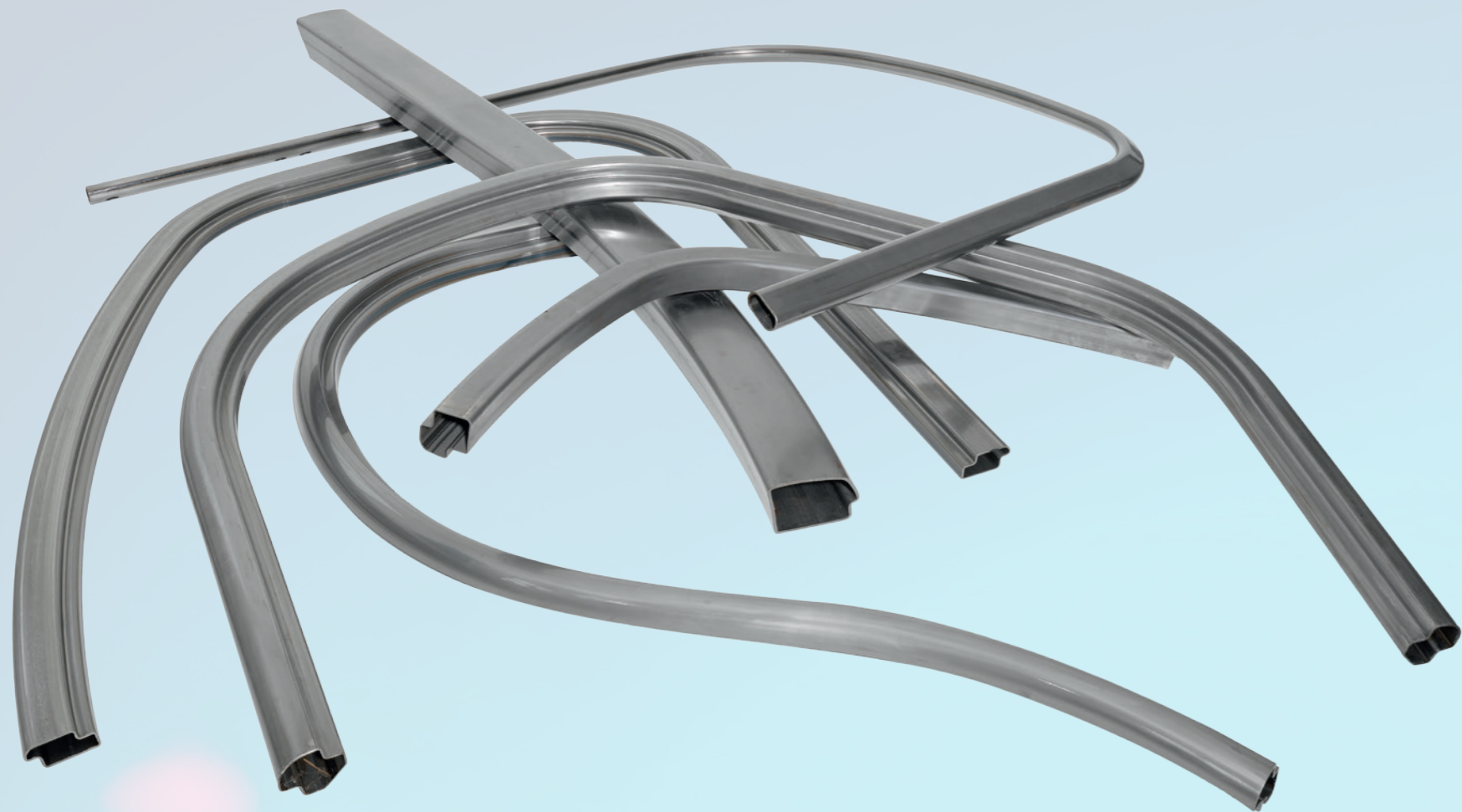




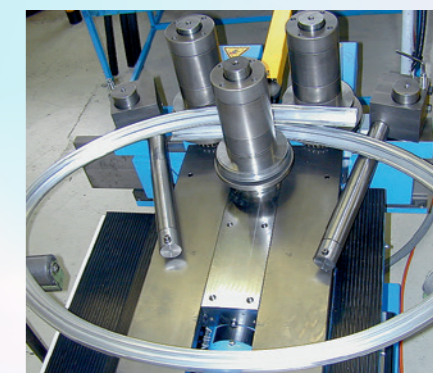
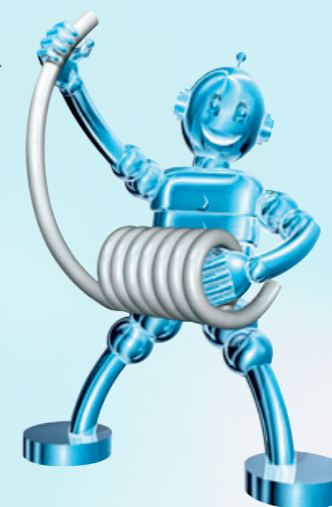
PBT AG **Profilbiegetechnik**

Professional bending!





«We are world class!»

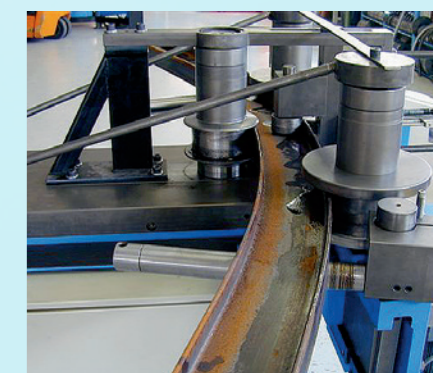
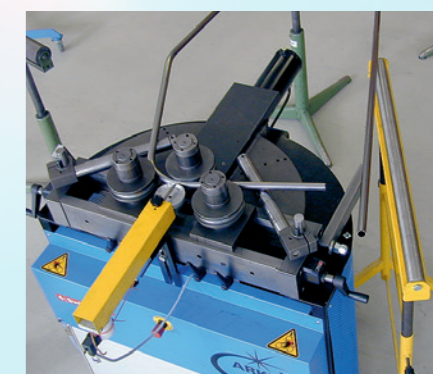


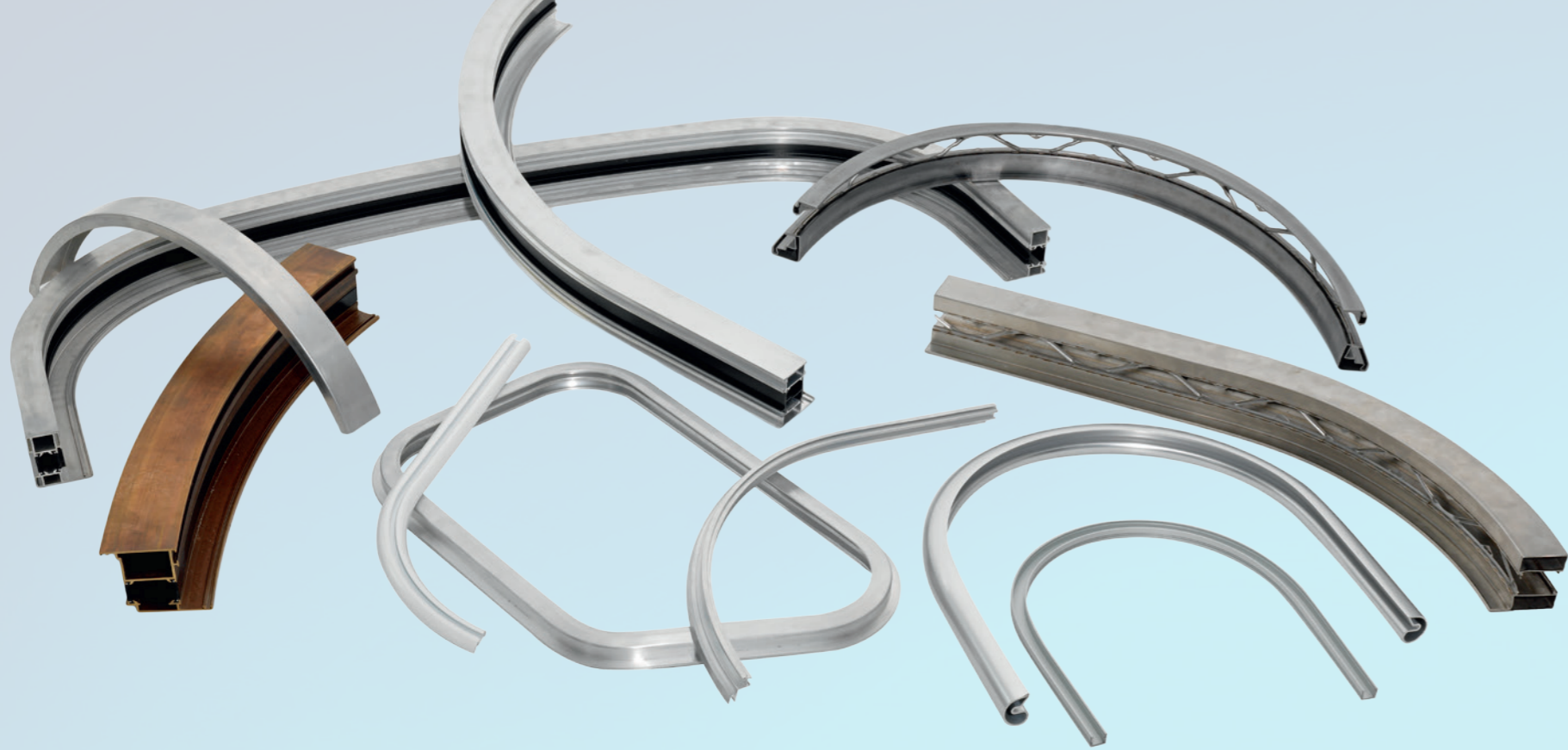
Solutions, not just machines

It's not the machines that supply customers with the right solutions, but the people who develop them. Our team meticulously researches, develops, and tests new bending techniques and equipment. We aren't guided by the competition or what is currently feasible. Rather, our work is targeted at the needs of the customer.

For a long time it was thought that many components were not bendable, or that their processing was too costly. Today's market proves otherwise: anything is possible. And we prove it every day - with high-performance machines, advanced controls and durable specialised tools.

These revolutionary developments have made us the market leader. PBT AG machines are used in more than 60 countries around the world. What gives us our good name is a passionate team that never gives up, but drives developments forward with technical skill.



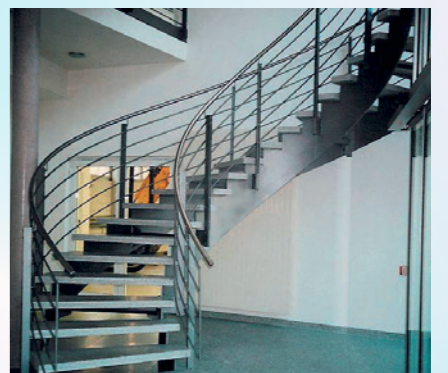


«We always have a solution.»

Our innovative solutions have already won over numerous well-known companies in the automotive, construction, aerospace technology and furniture industries, as well as many other sectors. Our customers' opinions of our machines are our best references.

Thanks to triple-roller bending technology, profiles are cold formed in an economical and energy-efficient manner. Another PBT advantage is our versatility in meeting customers' needs across many industries.

Our machines and controllers are very easy to use and last for ages. Even their functionality is unique. With our high-performance machine program, we are able to tackle almost any bending task. True to the motto: don't copy it – improve it!



Tasks, not problems

Customers tell us what they need and we provide it or develop something suitable for them, regardless of the sector, shape or dimension. Factors that set us apart are: economical bending technology, fast turnaround times and versatile use of machines and tools.

Customers usually talk about problems; we talk about tasks. At PBT, there are no problems – only customizable solutions. That's why we take plenty of time for discussions, development and demonstration, machine set-up and customer training.

PBT AG produces high-performance bending machines, specialist machines and special tools for aluminium, stainless-steel and steel profiles. The machines are quick to program, the tools are simple to change and the controls are easy to use.



Arkus 12®

The Arkus 12 is a compact and powerful profile-bending machine that bends even small steel and aluminium profiles to extremely small radii with the highest quality.

It is ideal for delicate aluminium and steel profiles in vehicle, window or metal manufacturing.



Control systems

Manual continuous setting / PC50 / PC250 / PC400

Features

- Infinitely adjustable front roller spacing: min. 256 mm (optionally 80 mm!)
- 3 individually driven rollers, up to 30 rpm
- Bending direction away from the operator
- Movable with a lift truck
- Minimum oil volume 7 litres
- 130 mm high rollers (optionally 230 mm)

Technical data

Power, x-axis	12 t
3 individually driven rollers, infinitely variable:	1–30 rpm
Front rollers infinitely adjustable	256–518 mm
Hydraulic drive	0.75 kW
Max. torque per roller	500 Nm
Tool holder Ø (optionally 105 mm)	40 mm
Travel (controlled x-axis)	200 mm
Resolution and positioning, x-axis	1/100 mm
Roller drive, electrical	3 x 0.37 kW
Power supply	400 V, 16 A

Bendo®

A superlative profile-bending machine in terms of performance, ease of use and quality. Especially for industry, job shop and series production.

Ideal for the smallest radii with perfect transitions in plant construction, automotive, material handling, metal and steel construction.



Control systems

PC400

Features

- Infinitely adjustable front roller spacing: min. 280 mm
- 3 individually driven rollers, up to 24 rpm
- Roller support/bezel standard for all three shafts
- Bending direction away from the operator
- Minimum oil volume 18 litres
- Side support rolls with digital indicator, vertically adjustable by hand wheel
- 250 mm high rollers

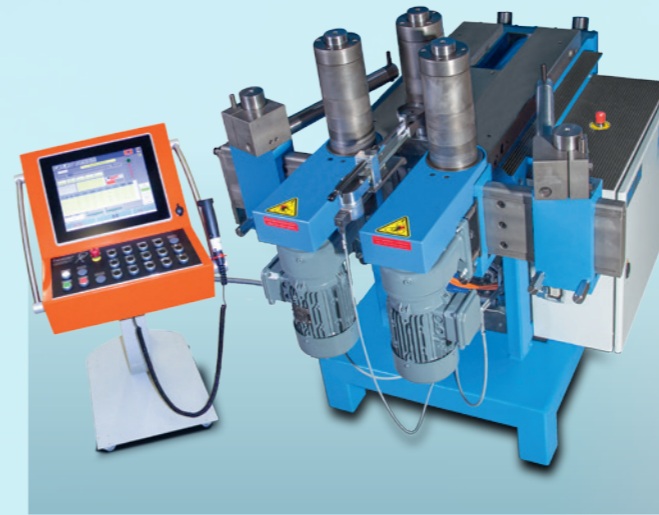
Technical data

Power, x-axis	20 t
3 individually driven rollers, infinitely variable:	1–24 rpm
Front rollers infinitely adjustable	280–860 mm
Hydraulic drive x-axis	3 kW
Tool holder Ø (optionally 105 mm)	65 mm
Travel (controlled x-axis)	260 mm
Resolution and positioning, x-axis	1/100 mm
Roller drive, electrical	3 x 1.1 kW
Power supply	400 V, 16 A

PBT25®

The PBT25 is a profile-bending machine of the highest quality and cost effectiveness. It bends standard-dimension profiles up to 300 mm in height, with very quick changeover.

The machine supports many varied applications in automotive manufacturing, material handling, metalworking, metal and steel construction, and space technology.



Control systems

PC50 / PC250 / PC400

Features

- Infinitely adjustable front roller spacing: min. 200 mm
- 3 individually driven rollers: up to 22 rpm
- Roller support/bezel standard for all three shafts
- Bending direction away from the operator
- Working on both sides possible
- Movable with drawbar
- Minimum oil volume 18 litres
- 300 mm high rollers (optionally 400 mm)

Technical data

Power, x-axis	27 t
3 individually driven rollers, infinitely variable:	1–22 rpm
Front rollers infinitely adjustable	200–1000 mm
Max. torque per roller	1600 Nm
Hydraulic drive x-axis	3 kW
Tool holder Ø	105 mm
Travel (controlled x-axis)	265 mm
Resolution and positioning, x-axis	1/100 mm
Roller drive, electrical	3 x 1.1 kW
Power supply	400 V, 16 A

PBT35® HYDRAULIC

The PBT35 provides uncompromising performance and quality, with plenty of power reserves and technical possibilities.

Its modular expansion possibilities allow for almost limitless applications in plant construction, automotive industry, material handling, metal and steel construction.



Control systems

PC400

Features

- Infinitely adjustable front roller spacing: min. 360 mm
- 3 individually driven rollers: hydraulic
- Bending direction away from the operator
- Roller support/bezel standard for all three shafts
- 300 mm high rollers (optionally 400 mm)

Technical data

Power, x-axis	35 t
3 individually driven rollers, infinitely variable:	3–16 rpm
Front rollers infinitely adjustable	360–1100 mm
Max. torque per roller	3000 Nm
Hydraulic drive x-axis	12 kW
Tool holder Ø	105 mm
Travel (controlled x-y-axis)	390 mm
Resolution and positioning, x-axis	1/100 mm
Roller drive	hydraulic
Power supply	400 V, 32 A

PBT35® SERVO

Uncompromising performance and quality. Plenty of power reserves and technical possibilities. Modular expansion possible.

Almost limitless applications in plant construction, automotive, material handling, metal and steel construction.



Control systems

PC400

Features

- 70% less energy consumption compared to the hydraulic version
- Very low noise emission
- Infinitely adjustable front roller spacing: min. 360 mm
- 3 driven rollers: servomotor
- Servo drive with constantly full load torque
- Roller support/bezel standard for all three shafts
- Bending direction away from the operator
- 300 mm high rollers (optionally 400 mm)
- Servo hydraulic, minimum oil volume 9 litres

Technical data

Power, x-axis	35 t
3 individually driven rollers, infinitely variable:	0–16 rpm
Front rollers infinitely adjustable	360–1100 mm
Max. torque per roller	3000 Nm
Nominal output	15 kW
Tool holder Ø	105 mm
Travel (controlled x-axis)	390 mm
Resolution and positioning, x-axis	1/100 mm
Roller drive	servomotor
Power supply	400 V, 32 A

Helix®

Heavy-duty, user friendly machine for even the toughest requirements. Especially suitable for large-sized profiles.

Ideal for bending the largest profiles into the correct shape (aluminium and steel supporting structures in architecture and technology).



Control systems

PC400

Features

- 3 individually driven rollers: up to 8 rpm
- Infinitely adjustable front roller spacing
- Digital display of the x-axis; resolution and positioning 1/100 mm: controlled and monitored
- CNC-controlled side support rolls
- 500 mm high rollers

Technical data

Power, x-axis	65 t
3 individually driven rollers, infinitely variable:	1–8 rpm
Front rollers infinitely adjustable	630–1330 mm
Max. torque per roller	9'000 Nm
Hydraulic drive x-y-axis	22 kW
Tool holder Ø	130 mm
Travel (controlled x-axis)	445 mm
Resolution and positioning, x-axis	1/100 mm
Roller drive	hydraulic
Power supply	400 V, 63 A

PC250 Controller

The PC250 Controller is designed for complex bending operations and the easiest operation. The operating scope has been reduced to the essentials to reduce complexity. The mobile control panel has an integrated industrial PC and 10" infrared touch screen. The PC250 Controller includes the simple radius programming of the PC400, as well as the program calculation (with either one or more in feeds). Data backup is via a USB port on the control panel.



PC250



PC50

PC50 Teach-in Controller

The PC50 Controller is designed for simple bending with only one radius of profiles. The mobile Siemens control panel comes with a resistive 5.7" touch screen. Programming in teach-in mode. Existing data can be accessed via the program directory. In this way, existing data can be adjusted at any time. The x- and y-axes are infinitely adjustable. The x-axis has a positioning accuracy of 1/100 mm.



Manual setting, continuous

Controller for simple bending (with only one radius) of profiles. Mobile control panel with manual operation and 5.7" screen. Manual control is particularly suitable for one-off jobs. The x- and y-axes are infinitely adjustable. The x-axis has a positioning accuracy of 1/100 mm.

The new PC400 Control:

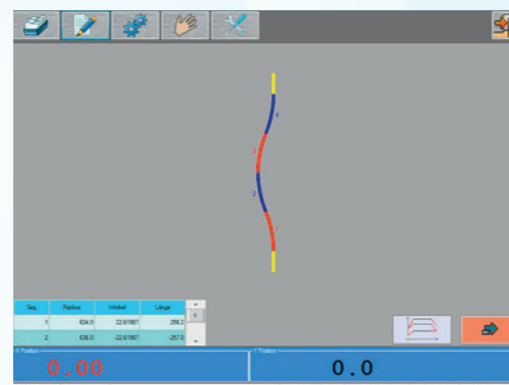
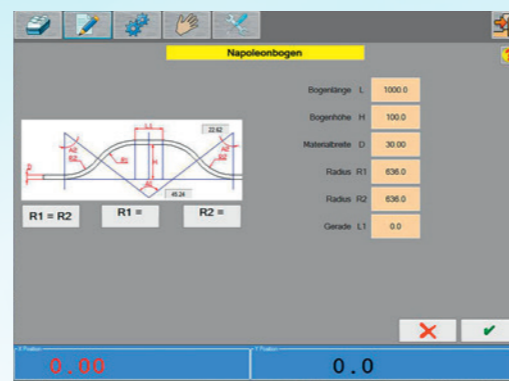
With the menu based dialog window, bending programs can be easily generated and managed. The generated programs can have any number of segments added together and can be bent in one or more passes on any or all bends. «Pre-loaded» programs for creating ellipses, handrails for spiral staircases, «Napoleon» bends, S-bends or special forms are included. Through the coordinated control of the x- and y-axes, smooth transitions between radii and straight segments are assured.

When bending material with unknown material constants (elasticity), minor deviations from the programmed data can occur. By simply entering the actual bent radius, the system automatically calculates the correction needed and the profile gets re-bent to the correct radius. Due to continuous monitoring and positioning of the x-axis, deviations are eliminated during bending of single pieces or production runs. A graphical representation of the programmed workpiece enables easy control of the programmed data.

The PC400 control leaves nothing to be desired. From the inventor of PC-based controls on 3-roll benders, this technology is unequalled. A catalog of spring-back diagrams by material can easily be built for future reference and for automatic radius measurement during bending. If desired, an interface can be made to your CAD program so programs can be created directly from your drawings. New remote diagnostics and maintenance can be provided via the internet, thus providing customers an even higher level of support.

The control hardware consists of a high-performance industrial 15" «multi-touch» computer with SSD (solid state disc). Using Microsoft's Windows 7 OS, the system can easily be included in a corporate network. This allows central data management, automatic backup and the capability to create programs on an office workstation instead of at the machine. Documentation for each program and part can be created and saved as a PDF file and attached to the program. This feature makes it simple to include process sheets, images and other data with each part program.

PBT created an open system with the PC400 control. Through the use of standard components, the control can be expanded to customer-specific needs.

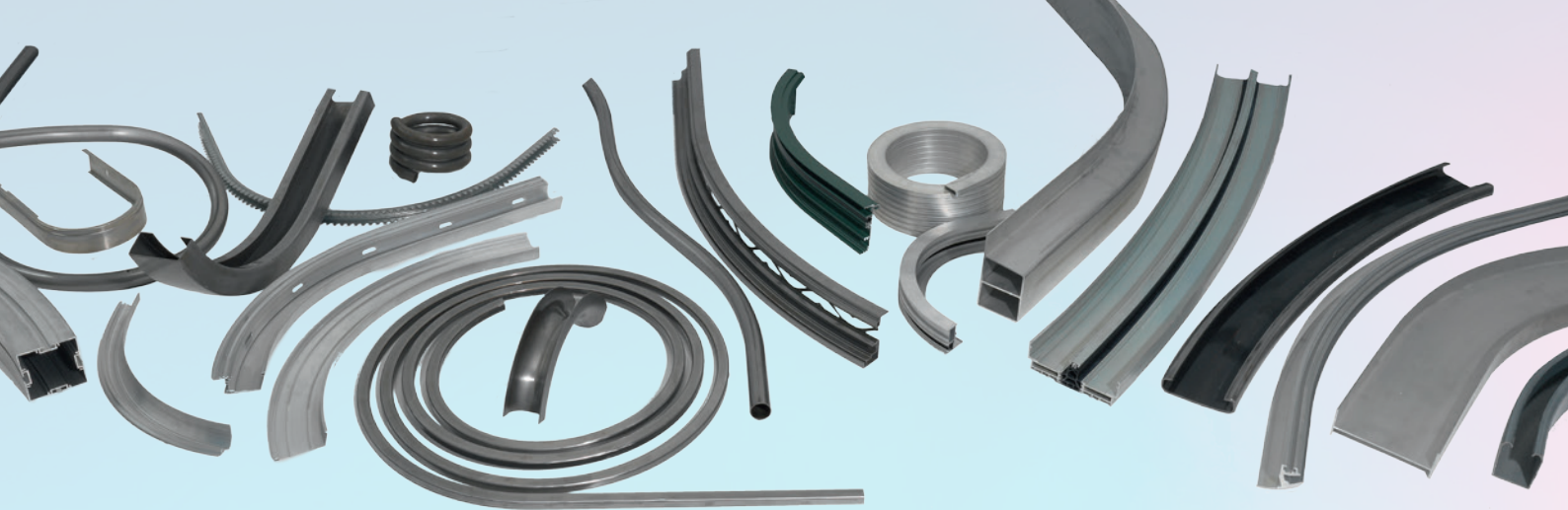


Production examples



Profile	Arkus12		Bendo		PBT25		PBT35		Helix	
	mm	min. Ø mm	mm	min. Ø mm	mm	min. Ø mm	mm	min. Ø mm	mm	min. Ø mm
	70/12	600	100/15	1600	120/15	2000	120/15	1200	200/30	4000
	100/10	300	200/15	600	300/15	600	260/20	700	260/30	900
	30/30	300	50/50	1000	60/60	1000	80/80	1400	100/100	2000
	30	300	50	1000	60	1000	80	1400	80	1000
	50/50/5	600	60/60/6	600	80/80/8	1200	100/100/10	1600	120/120/12	2000
	50/50/5	800	60/60/6	600	80/80/8	3000	100/100/10	2000	120/120/12	3000
	60/60/7	800	70/70/7	800	80/80/8	1000	100/100/10	1200	130/130/14	1500
	60/60/7	800	70/70/7	800	80/80/8	1000	100/100/10	1800	130/130/14	2000
	60/60/7	800	70/70/7	800	80/80/8	1000	100/100/10	1500	130/130/14	1500
	UNP 80	800	UNP 160	1200	UNP 180	1200	UNP 200	1200	UNP 260	2000
	UNP 80	800	UNP 160	1200	UNP 180	1200	UNP 200	1200	UNP 260	2000
			IPE 100	1600	IPE 120	1600	IPE 160	3000	HEA 200	6000
	I-PE 80	1000	IPE 140	1000	IPE 160	1000	IPE 180	1000	HEB 180	4000
	2" [60]	600	3" [88.9]	1000	4" [114]	1200	Ø 180	2000	Ø 219	4000
	50/50/3	600	120/40/4	2000	160/60/4	2000	100/100/10	1200	250/150/10	3500
	60/30/4	1000	120/40/4	2000	160/60/4	3000	160/60/4	2000	180/80/6	3500
			Steel	600	Steel	600	Steel	600		
			Steel	600	Steel	600	Steel	600		
			Steel	600	Steel	600	Steel	600		
	Aluminium	400	Aluminium	400	Aluminium	400	Aluminium	400		
	Aluminium	400	Aluminium	400	Aluminium	400	Aluminium	400		
			Aluminium	800	Aluminium	800	Aluminium	800		
	Aluminium	400	Aluminium	400	Aluminium	400	Aluminium	400		

*special tools needed

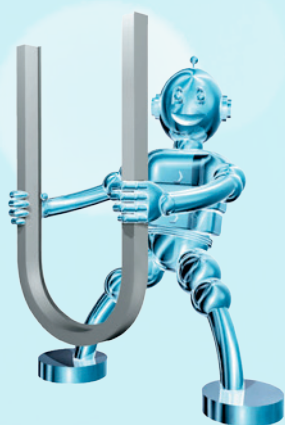


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