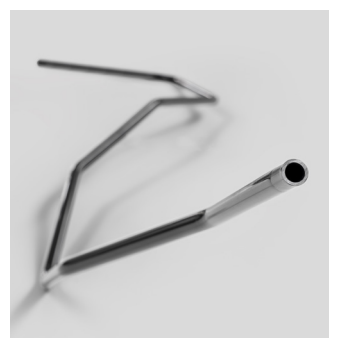
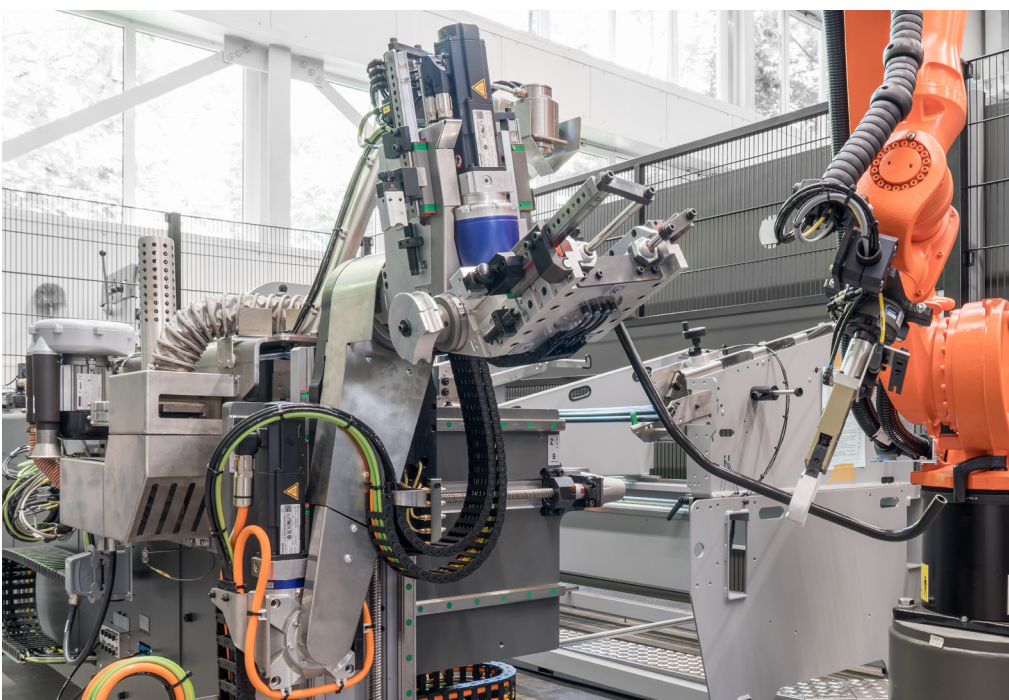


CNC Tube Bending Machine for the Production of Two- and Three-dimensionally Bent Parts from Thermoplastics



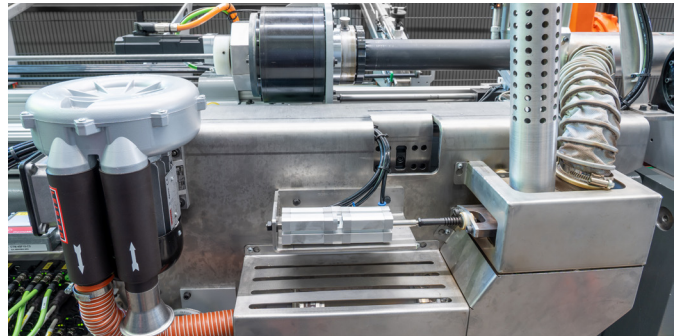
HotBend 35

HotBend 35

▼ Magazine, incl. separation and axial orientation of tubes for pick-up by robot



▼ Heating device



Our Accomplishments for your Benefit

- Unique CNC bending technology for plastic tubes enables a quick adjustment of geometries and a shorter time-to-market
- Complex geometries can be produced by means of an industrial robot supporting the workpieces
- Simple programming via geometry input without separate programming of robot
- The use of an internal mandrel during the bending process allows thin wall thicknesses, small bending radii with a homogeneous cross section and a smooth inner surface of the tube wall that reduces pressure drops of the fluids flowing through the tubes
- Heating device with CNC positioning for material-protecting heating of all thermoplastics

Design Features

- Basic Equipment 8 CNC axes
- Bending head consists of a swivel arm collet and backstop (pneumatically actuated), cooling of tools via compressed air
- Bending head positioning device
- Advance feed unit consisting of advance feed slide and rotary device
- Heating device with free positioning
- Device for bending with internal mandrel consisting of mandrel slide and mechanical mandrel shaft holding fixture
- Pneumatic collet system
- Workpiece support and handling during the bending process by robot
- Control unit incl. fully integrated robot control WPS 3.2 Easy-Way with touchscreen and hand-held operating device Graphical programming system with optimized bending software
- External switch cabinet with fan
- CE-compliant safety equipment

Patent Pending Heating Device

Heating device with free positioning and infinitely adjustable heating zone for gentle heating of bent parts by hot air. The workpiece is partially heated in defined bending areas during the bending process. Heating is controlled thanks to non-contact temperature monitoring at each bend by means of a pyrometer..

▼ Workpiece support and handling during the bending process by robot



Innovative, Future-Oriented and Flexible – WAFIOS CNC-Plastic Tube Bender

Bending of thermoplastic tubes with revolutionary technology

Unique, versatile and flexible machine concept with trend-setting production process for bending plastic tubes up to 35 mm outer diameter. WAFIOS HotBend 35 enables straight plastic tubes to be bent using the 3D bending process, comparable to a conventional tube bending machine. In this process, the bending area is heated with hot air in the patent-pending heating system. Next, the rotary-draw bending technique is used to make the according bends. The proven TWISTER² technology is used to support the tube geometry. During the bending process, the handling robot dynamically supports the plastic tube and stabilizes it during the cooling process. The robot movements are automatically determined by the WAFIOS WPS 3.2 programming system. Accordingly, even small series can be produced flexibly and economically.

With the HotBend 35, WAFIOS is meeting the increasing demand in the automotive industry for weight-optimized corrugated tubes, fluid and fuel lines. It can also be used for new applications in the e-mobility sector, such as battery temperature control. The machinery concept is particularly suitable for prototype production and for the after-sales business.

Quality

For more than 125 years, the name of WAFIOS has been synonymous with highest quality, safety standards, and technical innovations in the German machine manufacturing industry.

Reliability

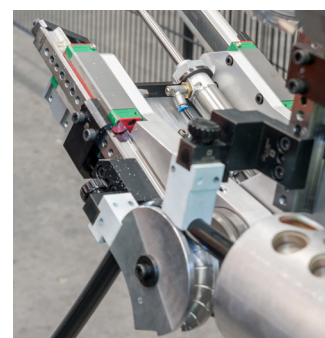
Strict quality controls, state-of-the-art production systems, and many years of experience guarantee that your investment is safe in our hands. Our global service network ensures high availability of WAFIOS machinery.

Cost efficiency

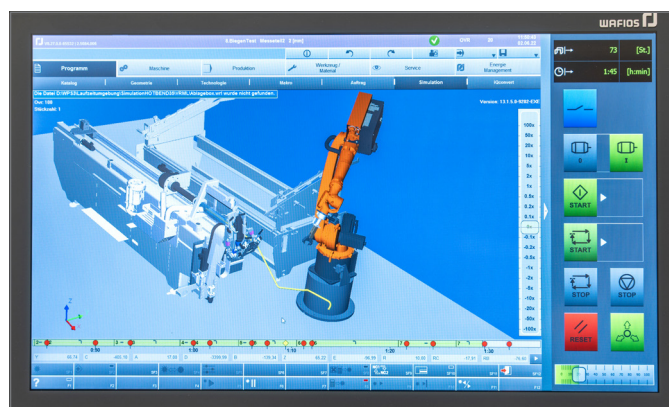
High production output and a long service life will save money and shorten the amortization time of your investment.



▲ Hand-held operating device with touchscreen



▲ Special tool design for bending thermoplastics



▲ User-friendly workpiece simulation thanks to WAFIOS Programming-System WPS 3.2 EasyWay with *iQtube*

Technical Data	HotBend 35
Working range tube diameter	up to 35 mm max.
Feed path according to VDI 3432 with inner mandrel device	up to 2,500 mm max.
Bending direction	right and left
Orientation of Tube during bending	free adjustable
Heating device	by hot air
Rotary-draw bending according to VDI 3432 max. bending arm angle max. bending radius max. tool installation height	195° 140 mm if PD = 16 mm 50 mm
Workpiece handling by Kuka robot	6-axis system
Machine control system	WPS 3.2 EasyWay
Machine weight	1,050 kg
Space requirements (l×w×h)	7,300 × 4,500 × 2,350 mm



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Precision Machinery for Wire and Tube