

## CNC Single-Head Coiling and Bending Machine for the Production of Two- and Three-Dimensional Parts Made of Wire

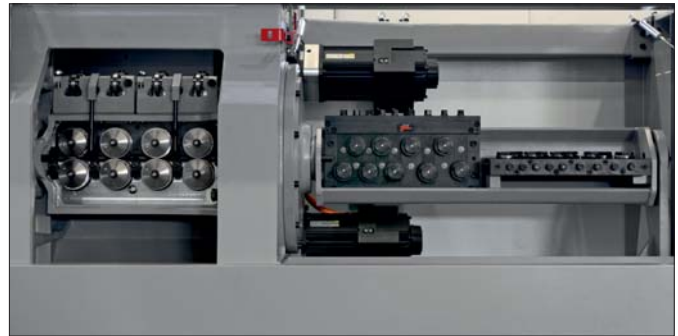


BM 90

# BM 90

▼ Bending head completely displaceable  
(choice of four positions)

▼ Feed unit including straightening unit



## Design Features

- High efficiency
- Robust feed unit with high feed force due to 4 pairs of feed rollers
- Robust structure of bending head with three bending axes and two travel axes
- Robust cutting unit
- Support of unstable bent parts by means of CNC-controlled support plate
- Enhanced process safety and operating speed as bending head can be displaced completely
- Increased performance, especially when producing complicated parts. Versatile and flexible due to three separate bending axes, rotating continuously
- Larger product range due to axial lowering of bending pins
- Improved quality thanks to cutting unit displaceable in wire direction (option)

## Operation

- User-friendly and rapid set-up by means of hand-held operating device
- Reduced tooling times due to ergonomic access to all tool positions as well as simple and quick programming of tools, material parameters and bending programs with WPS 3.2 EasyWay
- **iQbend**: Automatic optimization of CNC program sequences depending on the geometry of the bent part (option)
- **iQwire®**: Real-time simulation and calculation of cycle times and collision control (option)

## Our Accomplishments for your Benefit

- Numerous options ensure high availability, high performance and a great variety of parts
- Robust machine concept with high process standards guarantee quality and precision
- Enhanced operating convenience and flexibility due to user-friendly WPS 3.2 EasyWay



# Powerful, Stable in Value and Profitable - WAFIOS BM 90 CNC Single-Head Coiling and Bending Machine

## Trend-Setting Machine Concept

The BM 90 creates new production possibilities for thick wire and spring wire by featuring three separately controllable mandrel and bending axes, two axes for lowering the bending pins and an optional displacement of the cutting unit.

The rotation of the wire is based on a well proven concept. The electrically driven bending head is stationary mounted and consists of 7 standard axes. The displacement axes for the cross stroke and the up/down stroke are integrated in the standard machine. A mandrel axis and two bending axes enable new bending sequences as well as coiling processes. Furthermore, the bending pins of the two bending axes can be displaced axially independently of each other.

The electrically driven cutting unit can optionally be displaced automatically in wire direction, increasing the bending space and quality of bent parts.

## Coiling unit

The new coiling unit allows the production of a completely new range of parts. The coiling unit comes with three CNC axes. Spring bodies with a maximum height of 100 mm can be produced. WPS 3.2 EasyWay for convenient programming of spring geometries and CNC sequences.

## Quality

For over a 120 years, the name WAFIOS has represented the highest level of quality expectations, safety standards and German technical innovation related to the engineering of manufacturing systems.

## Reliability

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

## Efficiency

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

▼ 2-radii bending and coiling tool



▼ 4-radii bending and coiling tool



▲ Coiling unit



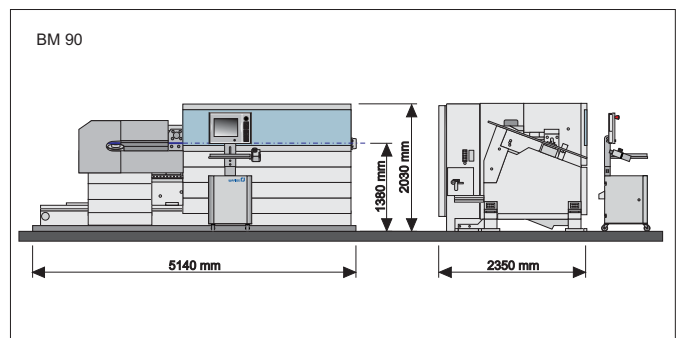
▲ iQbend in WPS 3.2 EasyWay



▲ User-friendly WAFIOS programming system WPS 3.2 EasyWay

Technical Data	BM 90
Operating range, wire Ø 600 N/mm <sup>2</sup> 1,350 N/mm <sup>2</sup> 1,900 N/mm <sup>2</sup>	8.0 – 16.0 mm 8.0 – 12.7 mm 8.0 – 10.5 mm
Feed rollers	4 Pairs
Rotary angle, feed unit	Infinite
Rotary angle, mandrel axis	Infinite
Rotary angle, inside bending axis	Infinite
Rotary angle, outside bending axis	Infinite
Bending head, up/down stroke	+5 mm / -190 mm
Bending head, cross stroke	+75 mm / -75 mm
Bend-back clearance, manual	600/850/1100/1350 mm
Bending head positioning	+20° fix
Max. feed speed	65 m/min
Bending torque	ca. 2,800 Nm
Number of standard CNC axes	11

Technical Data	BM 90
Travel, cutting unit (Option)	700 mm
Lowering of inside bending pin	axial ca. 30 mm
Lowering of outside bending pin	axial ca. 30 mm
High-speed rotary head, wire Ø	8.0 – 16.0 mm
Opt. /max. number of CNC axes	14 / 21



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Precision Machinery for Wire and Tube