

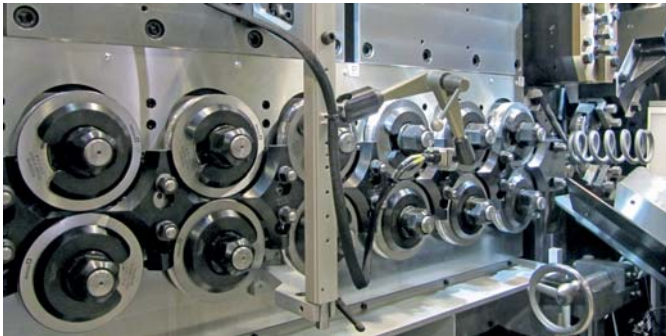
CNC Spring Coiling Machine for the Production of Precise, Close-Tolerance Compression and Extension Spring Bodies



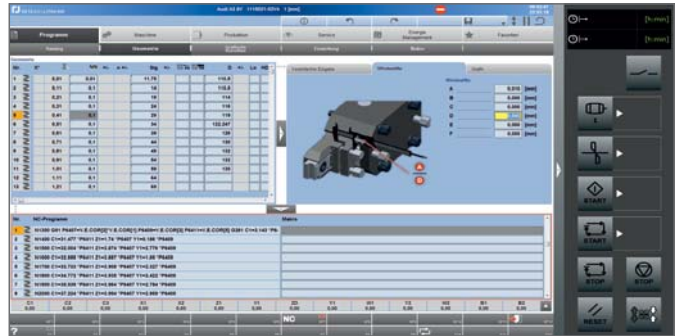
FUL 166

FUL 166

▼ Feed unit



▼ WAFIOS Programming System WPS 3.2 EasyWay



Our Accomplishments for your Benefit

■ High output, high flexibility

- Configuration of machine ensures a fast production of springs due to a high infeed speed, excellent axis acceleration values and very short cutting times
- Different types of cuts are available
- Versatile equipment options

■ Future-oriented machine concept

- Latest drive and control technology
- Modular machine structure and innovative tool solutions

■ High-end programming system WPS 3.2 EasyWay increases machine availability

- Programming of geometries for simplified spring input
- Manual settings can be saved with the spring program

■ High quality standards ensure zero-defect production

- Optical measuring of product with subsequent adjustment
- Further process monitoring features like e.g. slip control and color marking identification
- **iQautopitch** for faster repeat set-up of springs, in combination with a measuring system

Design Features

Machine Structure

- High-precision feed unit with six pairs of feed shafts
- Pneumatic tool clamping system
- Programmable mandrel height adjustment
- Programmable pitch, parallel and vertical to spring axis (option)
- Highly dynamic cutting system for straight cut
- WAFIOS Torsion cut, subject to geometry of spring (option)
- Rigid spring-shaping device with 2-axes system or optional 4-axes system for quick and convenient changeover from right- to left-hand wound springs at the push of a button

- PTP coiling finger for upper and lower slide available
- Individually programmable position of coiling fingers for regulating different initial tensions during the production cycle
- A well accessible work room and an optimized roller support reduce downtimes
- Color marking identification (option)
- No hydraulic drives for increased repeat accuracy, low maintenance work and easier handling.

Programming

- Simple, program-supported configuration of tools
- Convenient operation via touch screen
- Camera measuring system for measuring and regulating the spring length and the outer spring diameter (option)
- Sensors also available for unmanned process monitoring
- Graphical spring correction



▲ Coiling center



▲ PTP Coiling finger (option)

Universal, Powerful and Profitable – WAFIOS CNC Spring Coiling Machines

New Definition of Productivity

Designed for the production of precise, close-tolerance compression and extension spring bodies with high output due to pioneering design features.

- Reducing changeover times
- Maximizing machine availability
- Lightweight and cost-reduced feed rollers
- Mechanical settings can be saved with the program
- **iQautopitch** for faster repeat set-up of springs

Set new standards of quality with the new PTP coiling finger.

Shorter set-up times thanks to fast, precise tool settings made with comprehensive CNC control technology.



▲ Conical spring produced without PTP coiling finger



▲ Conical spring produced with PTP coiling finger

Quality

For more than 120 years the name WAFIOS has stood for the highest in terms of quality expectations, safety standards and technical innovation in German manufacturing systems engineering.

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.



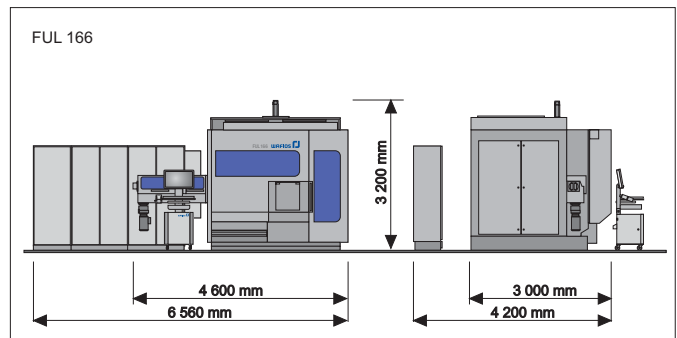
▲ WAFIOS Vision System (WVS)



▲ Backlighting for camera

Technical Data	FUL 166
Wire dia.: (mm) (RM - N/mm ²)	6.1 - 16.0 (Wm > 5) 2,000
Wire dia.: (mm) (RM - N/mm ²)	6.1 - 17.0 (Wm > 5) 1 700
Feed roller pairs	6
Outer spring dia.: max. (mm)	240
Feed speed max. (m/min.)	70
Max. output Springs/min.	50
Dimensions w x d x h (mm)	6,560 x 4,200* x 3,200
Weight (kg)	21,200

* Depth without control panel carriage.



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Precision Machinery for Wire and Tube