

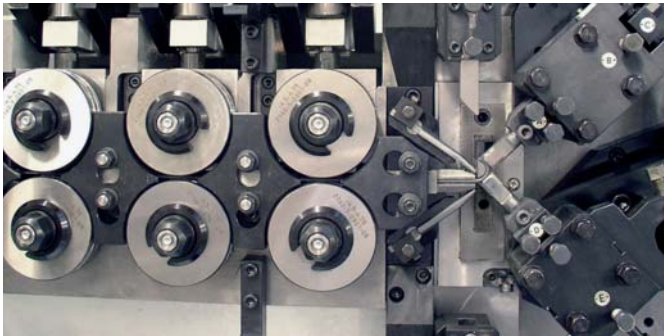
# Electronic Spring Coiling Machine for the Production of Compression Springs



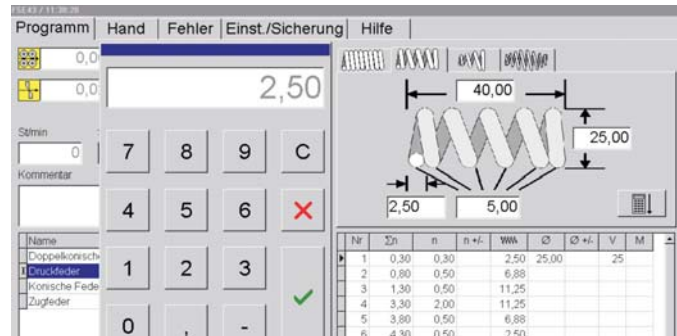
Series  
FSE

# Series FSE

▼ Tool room FSE



▼ DIN spring, simplified input using the FSE programming system



## Design Features

### Machine Structure

- Clear machine structure
- State-of-the-art machine drive with 6 - 8 CNC axes
- Powerful wire feed
- Rigid 2-finger coiling unit for minimum production tolerances
- Robust cutting unit for straight cut and torsion cut
- High production output
- Simple maintenance and repairs
- PTP Coiling finger for FSE 15, 93 and 143

### Short Tool Change and Setup Time

- Easy tool access
- Fast changeover from left- to right-handed coils
- Intuitive machine controls with touch screen control panel

### Software

- User-friendly and easy-to-learn operating software
- Simplified spring input for shortest setup times
- SPC evaluation enables verification of a zero reject rate
  - in production
- Capacitive spring length measuring device
- Optional measuring camera



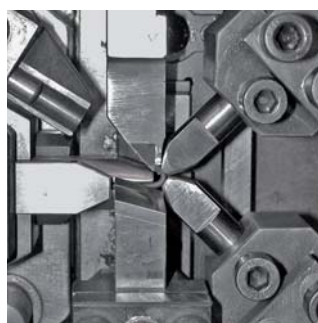
# Quality, Reliability and Efficiency – WAFIOS FSE Spring Coiling Machines

## Redefining Productivity

Designed for the production of compression springs, the WAFIOS FSE range offers a cost-optimized solution for manufacturing all standard types of compression springs, and has so far provided a reliable and tried-and-tested service to hundreds of satisfied customers all around the world.

The reliability of the machines ensures smooth and trouble-free production – not only because any standstill time is reduced to a minimum, but also thanks to the high repetition accuracy which delivers perfect production results time after time.

With easy setup and straightforward handling, tool change and setup time is minimized and machine availability is increased to its full potential.



▲ Torsion cut



▲ User interface for the SPC evaluation

## Quality

For more than 100 years the name WAFIOS has stood for the highest in terms of quality expectations, safety standards and technical innovation in German manufacturing systems engineering.

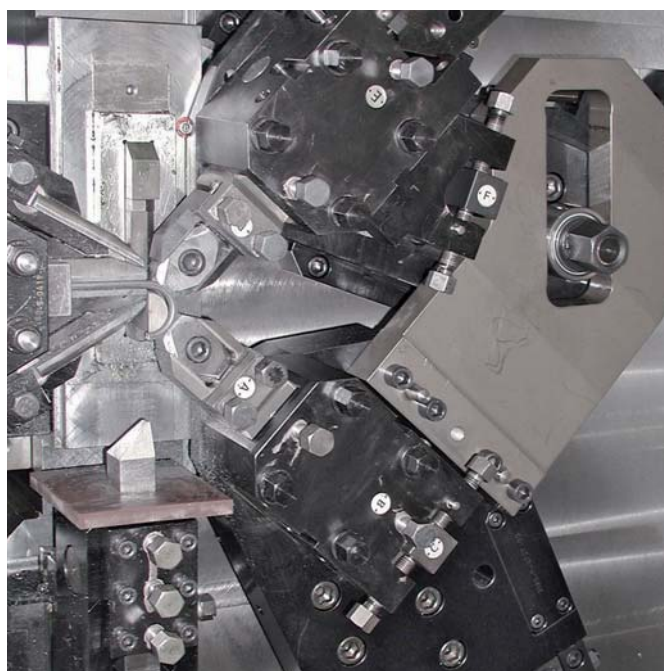
## Reliability

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.

▼ Left-handed coils, FSE series



Technical Data	FSE 15	FSE 93	FSE 143
Wire dia.	0.12 - 0.6 mm	5.1 - 12.0 mm	6.1 - 16.0 mm
Spring dia. (max.)	20 mm	220 mm	240 mm
Feed speed (max.)	150 m/min.	80 m/min.	70 m/min.
Springs, units/min. (max.)	750	100	50
Rings, pcs/min. (max.)	800	---	---
Dimensions l x w x h mm	900 x 900 x 1,700	3,400 x 3,200 x 2,700	3,200 x 3,500 x 2,700
Weight	ca. 700 kg	ca.13,000 kg	ca.18,000 kg
Rm [N/mm <sup>2</sup> ]	2,600 N/mm <sup>2</sup>	Ø 10 mm 2,200 N/mm <sup>2</sup>	Ø 14 mm 1,800 N/mm <sup>2</sup>
		Ø 12 mm 1,800 N/mm <sup>2</sup>	Ø 16 mm 1,400 N/mm <sup>2</sup>



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Precision Machinery for Wire and Tube