

# WAFIOS Training Program



Training

# Training



Well-trained employees are extremely important for competitiveness, because only qualified staff can optimally utilize the potential of your machines and programming systems.

With the courses listed in this training program, WAFIOS offers you established, practically-oriented transfer of knowledge for working with our machines and the associated software products.

Should you be interested in training for additional machine types, we will of course develop the relevant content and include it in our course offerings.

All WAFIOS training is individually matched to your needs and can be performed at our main facility in **Branford, CT**, Midwest Technical Center in **Mokena, IL** (Chicago metropolitan area) or on your premises, at your request.

### The advantages for you at a glance:

- ✓ Expansion of your own product mix
- ✓ Improvement of quality standards
- ✓ Optimized performance
- ✓ Minimized tooling time
- ✓ Qualification and motivation of staff

### Affordable training package pricing:

- rate schedule detailed on separate sheet
- weekend, OT and other considerations may apply
- class size limitations may apply
- required training materials included
- training only, not applicable for repair

We will gladly prepare an individual offering for you. Please turn to your contact in Customer Service Group for assistance.

Your contact for WAFIOS training:

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# Training for Spring Coiling Machines (FUL, FSE, F Series)

## Basic Training

### Required knowledge

- None

### Training contents

- Explanation of the machine and its elements, mode of operation, production possibilities, safety equipment, pay-off and straightener
- Explanation of the operating instructions and the programming system
- Explanation of the electronic controller and the controller elements
- Switching on the machine and its motors, controller in manual mode
- Explanation of the wire pay-off and of safe loading with a bundle
- Installation of a set of tools, change of material and readjustment
- Programming various spring sequences
- Explanation of restarting after an emergency stop and normal shutdown
- Data backup (reading back daily backups)
- Importing and exporting programs
- Explanation of repair, maintenance and residual risks



## Advanced Training

### Required knowledge

- Basic knowledge of machine operation and programming
- CNC knowledge is an advantage

### Training contents

- Programming of complex springs
- Programming of macro functions (CNC)
- Program optimization with the aid of additional functions (mandrel displacement etc.)
- Various types of cutting (torsion cutting, optimized cutting, rotary cutting, straight cutting, rotary flying cutting)
- Camera training
- Expansion possibilities and additional functions such as PTP coiling finger, sorting, torsion cutting, etc.
- Single-finger coiling system/ torsion spring device
- Maintenance and Repairs

## Maintenance and repair training

- Instructions for trouble-shooting independence
- Procedure for defining parts to be replaced

## Training on additional advices

- PTP coiling finger
- Torsion cutter
- Camera
- Single-finger + torsion spring device
- 3D coiling pin
- among others

# Training for Torsion Spring Machines (FMU, FMK Series)

## Basic Training

### Required knowledge

- None

### Training contents

- Explanation of the machine and its elements, mode of operation, production possibilities, safety equipment, pay-off and straightener
- Explanation of the electronic controller and the controller elements
- Switching on the machine and its motors, controller in manual mode
- Installation of a set of tools, change of material and readjustment
- Programming of new parts with geometry elements
- Input of tool, characteristic curve and material data
- Data backup (reading back daily backups)
- Importing and exporting programs
- Explanation of repair, maintenance and residual risks

## Advanced Training

### Required knowledge

- Basic knowledge of machine operation and programming
- CNC knowledge is an advantage

### Training contents

- Planning of bent parts and springs and implementation in prototype production
- Programming of tools, their geometry and configuration
- Program optimization with additional functions
- Programming the second NC system (tension spring)
- Special types of bending (e.g., bending after the cut, mandrel coiling, eccentric bending, etc.)
- Working backward, coiling backward
- Teach-in functions in WPS3
- Camera
- Expansion possibilities and additional functions (Handling system, ZO plate for loop springs)

## Maintenance and repair training

- Instructions for trouble-shooting independence
- Procedure for defining parts to be replaced

## Training on additional advices

- Camera
- ZO plate for loop springs
- Gripper tong for tension springs
- Removal unit
- Linear unit
- among others



# Training for Bending Machines (BMU, BM, B Series)

## Basic Training

### Required knowledge

- None

### Training contents

- Explanation of the machine and its elements, mode of operation, production possibilities, safety equipment, pay-off and straightener
- Explanation of the electronic controller and the controller elements
- Switching on the machine and its motors, controller in manual mode
- Moving axes to reference point, moving axes to the zero point
- Adjusting the cut types and roller pressure, Input of characteristic curves
- installation of a set of tools, change of material and readjustment
- Programming of new parts with geometry elements
- Additional functions and programming macros
- Management of bent parts
- Data backup (reading back daily backups)
- Importing and exporting programs
- Explanation of repair, maintenance and residual risks

## Advanced Training

### Required knowledge

- Basic knowledge of machine operation and programming
- CNC knowledge is an advantage

### Training contents

- Programming bent parts (WPS system and coordinates)
- Programming of tools, their geometry and configuration
- Program optimization with additional functions
- Special types of bending (e.g., bending after the cut, mandrel coiling, eccentric bending, etc.)
- Teach-in functions in WPS3
- Expansion possibilities (chamfering, hole-punching, stamping, handling)
- Maintenance and Repairs

## Maintenance and repair training

- Instructions for trouble-shooting independence
- Procedure for defining parts to be replaced

## Training on additional advices

- Bending after the cut
- Chamfering device
- Pneumatically controlled tubular wire guide
- Removal unit
- among others



# Training for Tube Bending Machines (RBV, BMZ Series)

## Basic Training

### Required knowledge

- None

### Training contents

- Explanation of the machine and its elements, mode of operation, production possibilities, safety gear
- Explanation of the electronic controller and the controller elements
- Switching on the machine and its motors, controller in manual mode
- Moving axes to reference point, moving axes to the zero point
- Input of characteristic curves
- Installation of a set of tools, change of material and readjustment
- Programming of new parts with geometry elements
- Additional functions and programming macros
- Management of bent parts
- Reading back the daily lists
- Data backup (reading back daily backups)
- Explanation of repair, maintenance and residual risks
- Importing and exporting programs

## Advanced Training

### Required knowledge

- Basic knowledge of machine operation and programming
- CNC knowledge is an advantage

### Training contents

- Programming bent parts (WPS system and coordinates)
- Programming of tools, their geometry and configuration
- Program optimization with additional functions
- Special types of bending, (e.g., mandrel bending, eccentric bending)
- Expansion possibilities (hole-punching, forming, handling, coiling)
- Color detection, weld seam detection, hole detection

## Maintenance and repair training

- Instructions for trouble-shooting independence
- Procedure for defining parts to be replaced

## Training on additional advices

- Bundle loader
- Free-form bending
- Tube feeding by magazine
- among others





# Training for Straighteners (R, RE Series)

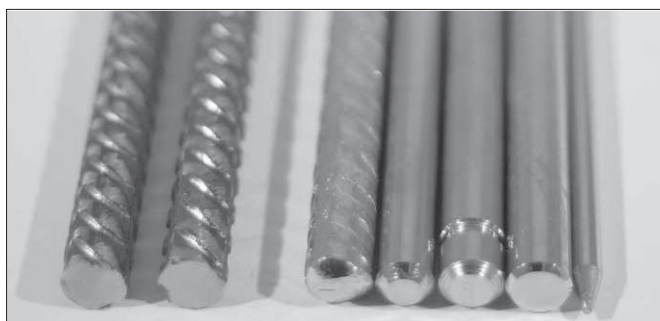
## Basic Training

### Required knowledge

- None

### Training contents

- Explanation of the machine and its elements, mode of operation, production possibilities, safety equipment, pay-off and straighteners
- Explanation of the electronic controller and the controller elements
- Switching on the machine and its motors, controller in manual mode
- Installation of a set of tools, change of material and readjustment
- Adjusting roller pressure, straightening dies, and cutting shafts
- Adjusting the length measurement and the cut triggering
- Reworking cutter bushes, cutter tools and straightening dies
- Explanation of repair, maintenance and residual risks



## Maintenance and repair training

- Instructions for trouble-shooting independence
- Procedure for defining parts to be replaced





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**Precision Machinery for Wire and Tube**

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