

HANDLING SYSTEMS AND SPRING FEEDER

SECTION 7



Your complete source for industrial automation and electronics

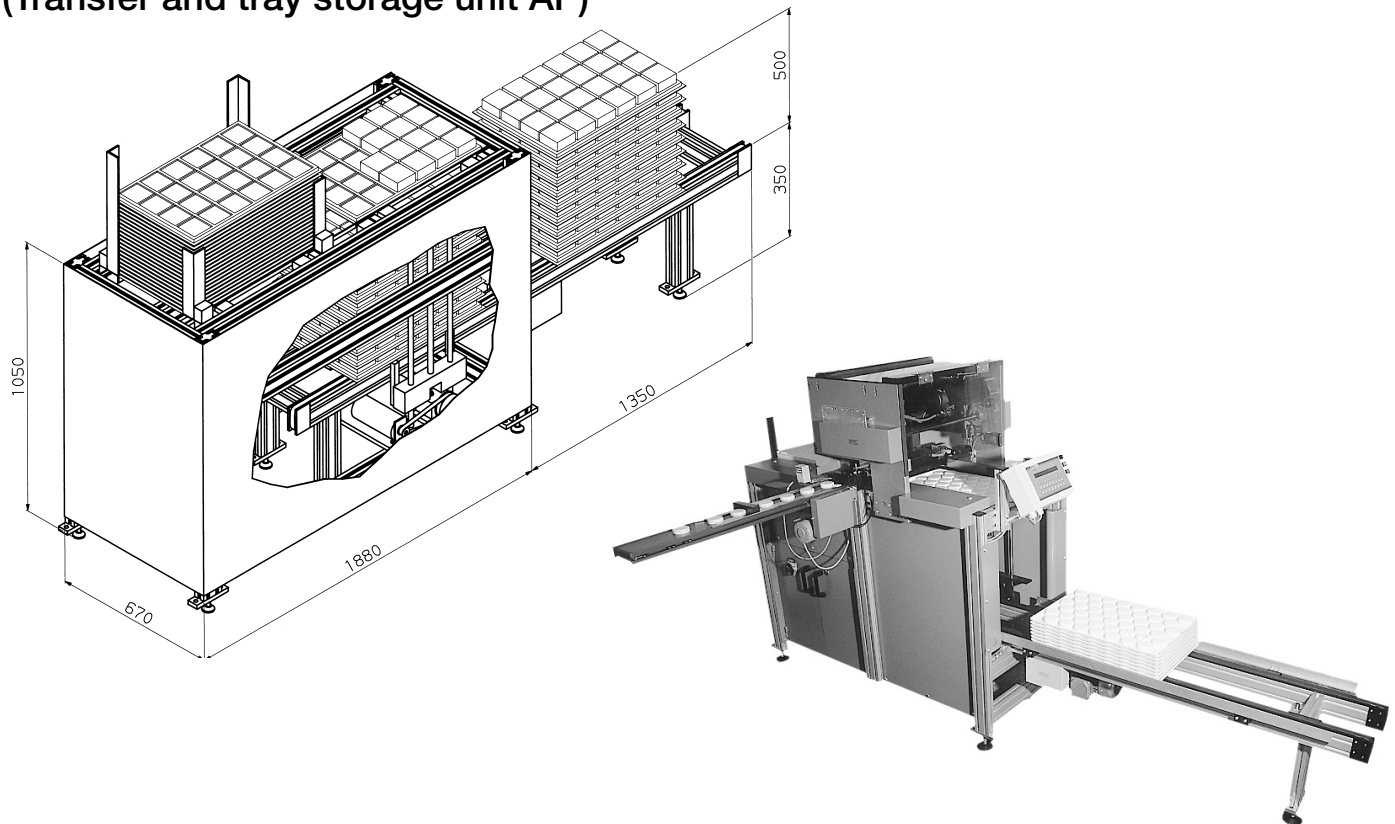
mf automation, inc.

www.meto-fer.com

1-888-638-6337

Automated Tray Changer

(Transfer and tray storage unit AP)



Description

The transfer and tray storage unit is used for automatic loading/unloading of trays.

The tray to be loaded is singled out on the tray stack downward and is brought into the loading position by the electrical drive unit.

The advance of the trays is programmable to your choice and programs can be stored in the controller unit.

The loaded trays are stacked onto each other and lowered within the unit downward to the transfer unit.

This transfer unit moves the whole stack of trays out of the system.

This unit is designed to allow the procedure described above also to be carried out in reverse order.

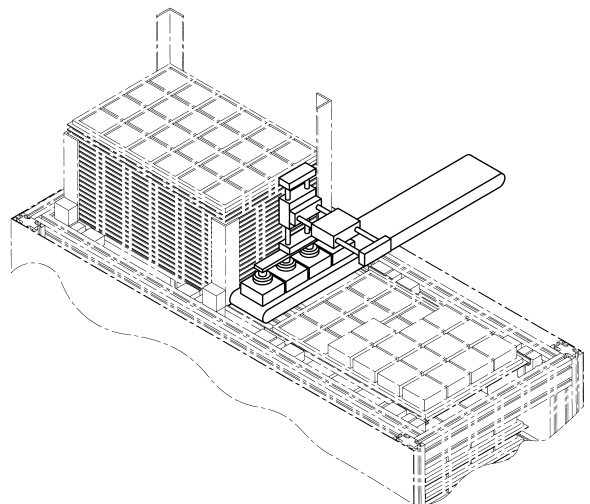
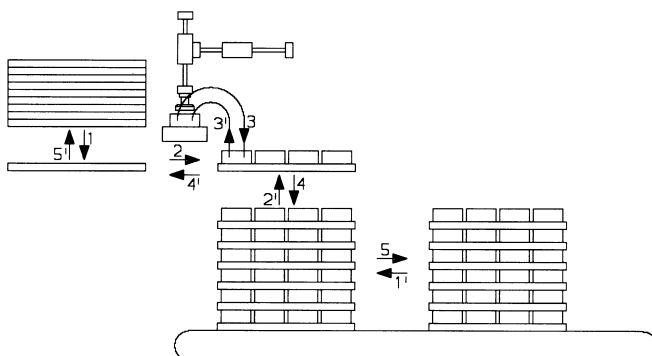
This unit is equipped with an individual controller, which also allows the controlling of the handling unit.

In addition, this transfer and tray storage unit can be equipped with any automation component of modular design within our range of products. The parts can then be loaded/unloaded individually or serially.

Typical applications are: difficult parts to sort out, or parts which must not be scratched, e.g. cosmetic products.

Technical Data:

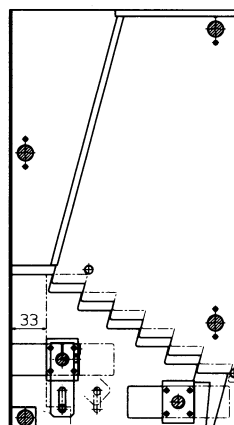
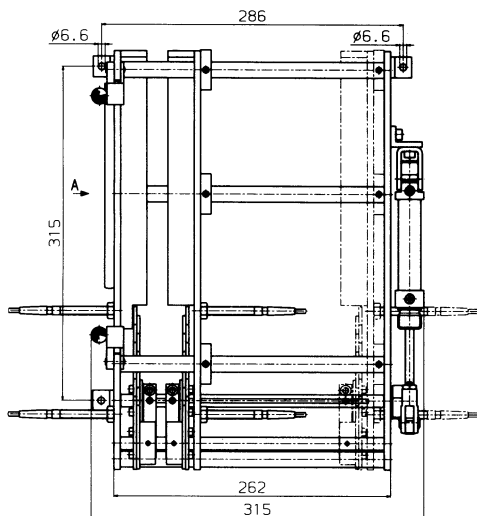
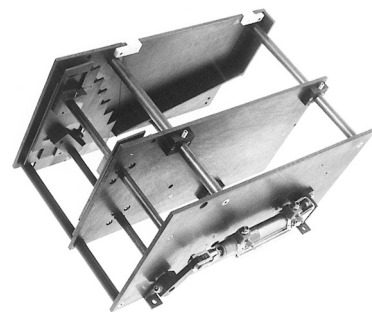
- Tray size 400 x 600 mm (other dimensions are also possible)
- Tray changing time approx.. 5 seconds
- Stack height 400 mm
- Total weight of tray stack approx.. 30 kgs



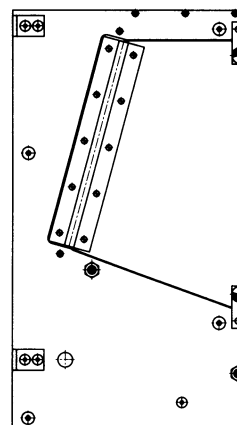
Shaft Hopper WM-01

Order No. WM-01 - . . .

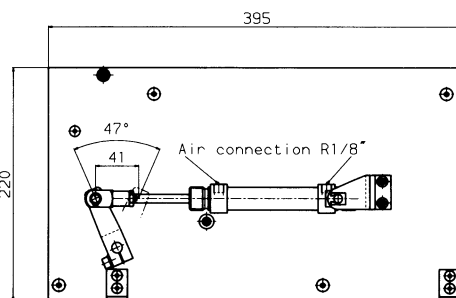
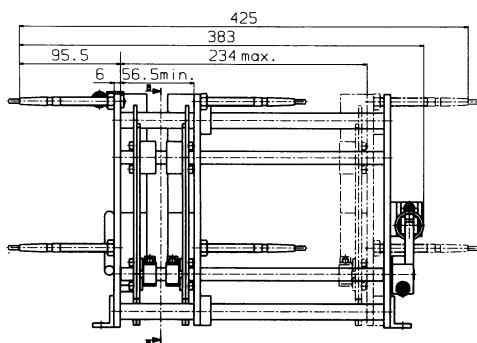
O = No sensors
N = Sensors NPN (M8x1)
P = Sensors PNP (M8x1)



Section B-B



View A



The shaft hopper separates and prepositions shafts with a diameter from 6 to 26mm. The length of the work pieces can range from 56 to 254mm. (2,2" to 10")

Parts must have the same length and the same orientation. A simple shifting of the internal partitioning adjusts to a different work piece length.

A stepped mechanic that moves up and down separates the shafts. It is driven by a pneumatic cylinder. The uppermost step can be used as an unloading position for the parts; but it is also possible to convey the shafts to another suited installation (for example transport device) without using an unloading device.

The shaft hopper is equipped with a level measuring device and a control for the unloading position. A flap at the side allows to magazine even short shafts without problems.

Weight of the hopper approx. 44 lb (20 kg)

Spring feeder FG

For disentangling and feeding of cylindrical springs with air.

NOTE: Each spring must be checked out individually for feed suitability. About 0.3 liter (.33 quarts) of regular production springs are needed for evaluation.

SPRING:

- Outer spring diameter 2-8mm (0.0788" - 0.3152")
- Length up to 30mm (1.182")
- Special version up to $\varnothing$ 18mm (0.708")
- Length 5-45mm (0.196" - 1.771")

Technical data:

- Simple and quick refill of springs
- *Hopper for additional bulk quantity of springs (see back page)*
- 1-6 outputs (dependant on feed rate, dimension and form of spring)
- Rate per output: up to 100 PCS/ min.
- Air connection: R 1/8"
- Operating medium: compressed air / oil free
- Operating pressure: 2-6 bar (30-90 psi)
- Air consumption: per operating cycle at 72.5 psi (5 bar): .883 scf (25 NL)
- Volume: 0,5 litre (.55 quarts)
- Weight: 30 kg (66.2 lb)

The unit is supplied with a matching nozzle, tube mount and 2-meter tube.

CONTROL UNIT:

The control unit is equipped with an automatic on / off (FG will switch on only as required)

Voltage: 24 volts DC

Order No.

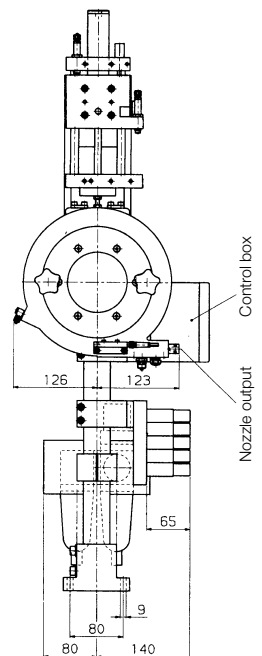
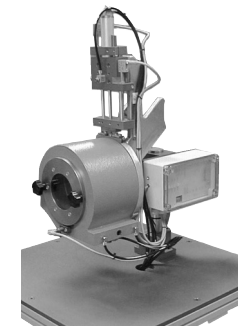
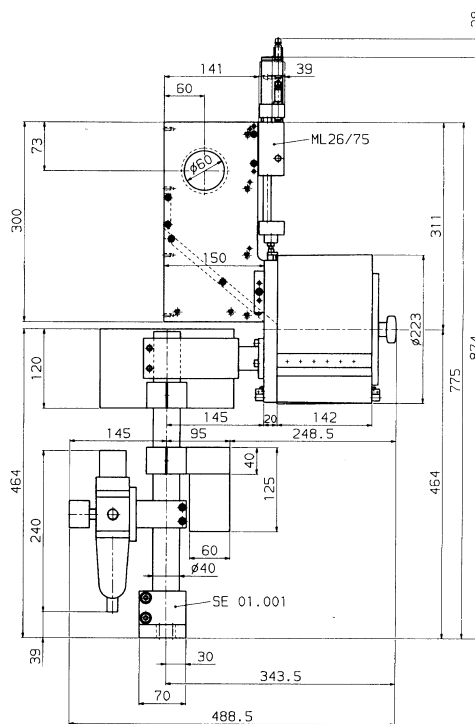
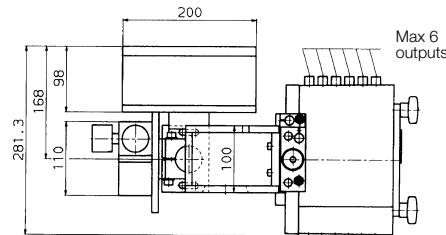
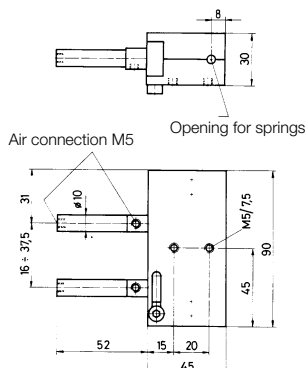
- FG -
- A = valves, regulator, compl. with tubing, without ring initiator
 - B = valves, regulator, compl. with tubing with control unit, with ring initiator (1 pc. per output)
 - Number of outputs 1-6

Ring initiator version PNP

Order No. IR PSK-IBS

Ring Diameter (I.D.)

Single escapement EF for springs and cylindrical pins



The single escapement must be matched to the spring diameter.

Technical data:

- Outer spring diameter 2-8mm (0.078" - 0.315")
- Spring length 5 to 40mm (.196"-1.574")
- Call us for details about your custom size
- Air connection M5 Operating medium: compressed air/ oil free
- Operating pressure: 2-6 bar (30-90 psi)
- Air Consumption: per operating cycle at 72.5 psi: 0.014 NL
- Weight: 0,85 kg (1.87lb)

Order No. EF 01.000

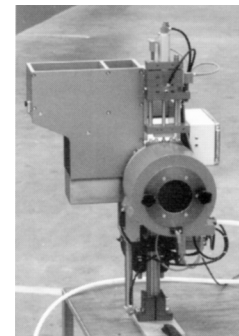
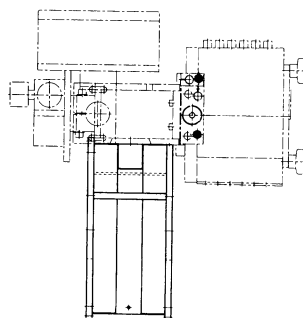
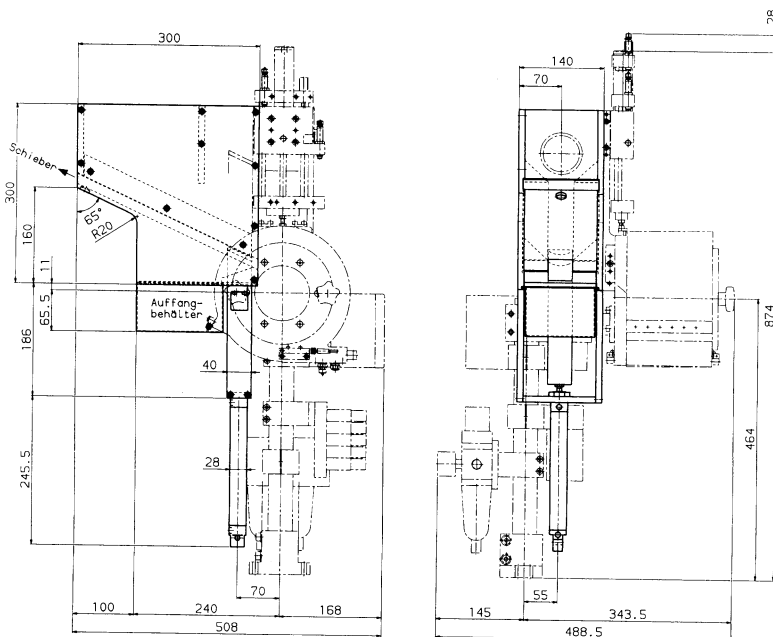
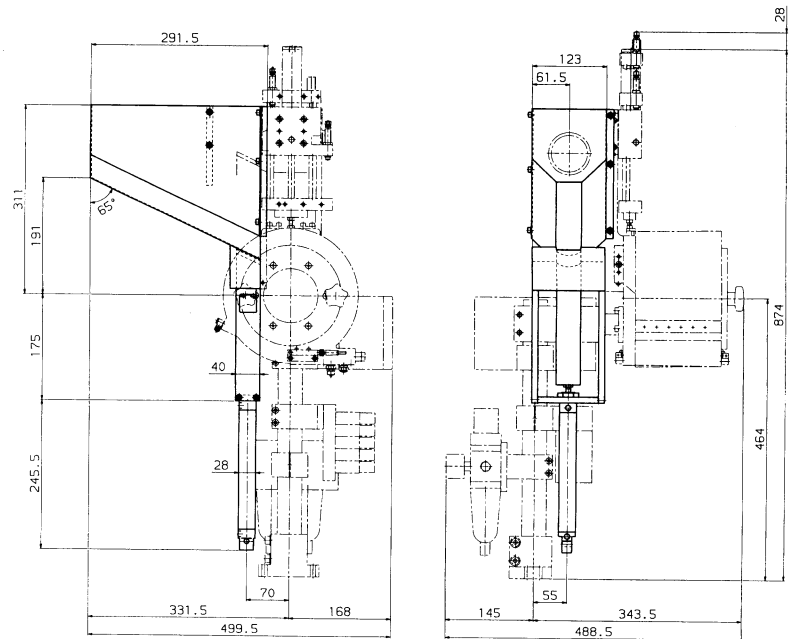
Hopper FG

Available in two models, the Hopper holds a bulk quantity of springs and easily facilitates automatic refilling of the Spring Feeder.

MODEL – S

This model does not have a quick empty feature.

Order No.: FG-Hopper-S



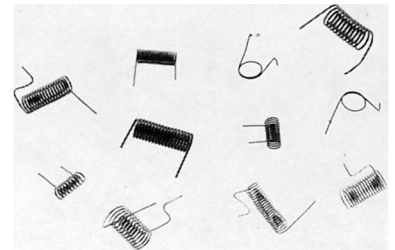
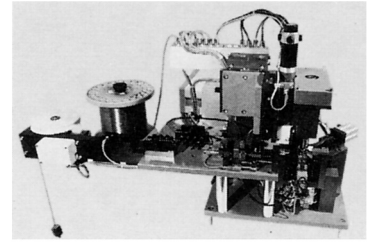
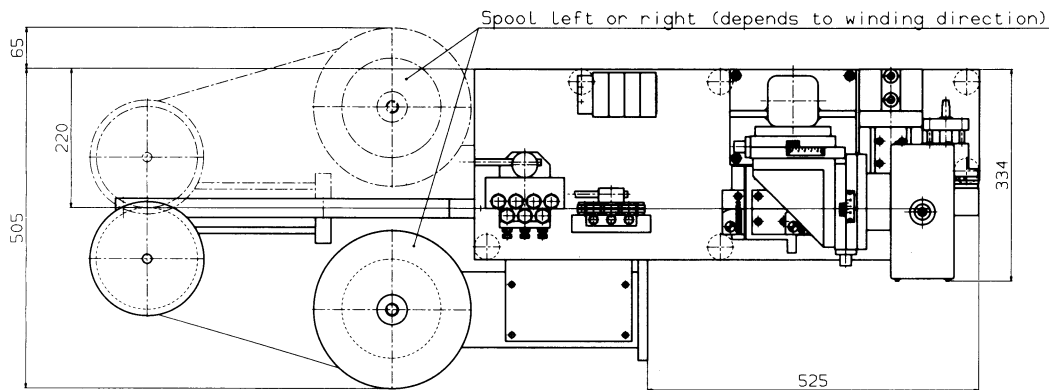
MODEL – L

FG-Hopper-L is recommended when your application requires feeding various types of springs with the same spring feeder. Model – L also provides a Quick-Empty feature, by simply pulling the drawer.

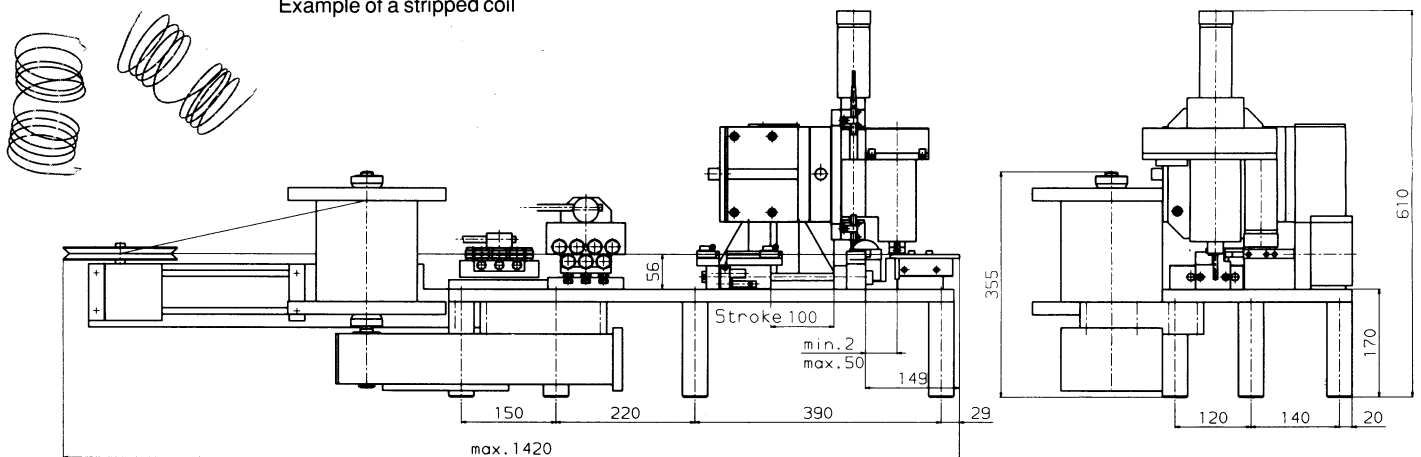
Order No.: FG-Hopper-L

NC-Winding Machine FW-01

for spiral torque springs



Example of a stripped coil



The Meto-Fer NC-winding machine produces spiral springs with legs, for use in torquing applications, and coiled resistance wires directly from a spool. The machine can be integrated directly into an assembly installation, or used as a stand-alone machine.

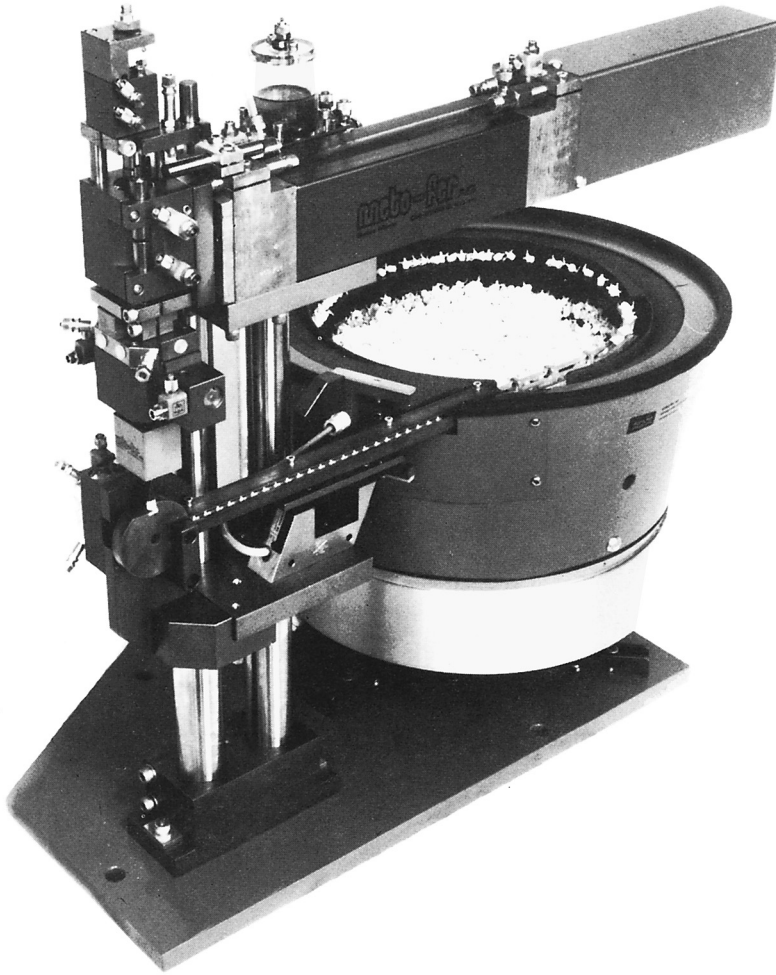
A traversing spindle is used to wind the springs. Two programmable DC motor driven CNC-axes drive the winding process. All other movements are controlled pneumatically. The CNC control unit is an integral part of the spring winding machine.

Tooling adjusts to accommodate different coil lengths. Simple tooling changes accommodate different coil diameters and leg lengths. If necessary, additional tools can be used to bend and form the legs of the springs. Please note that this standard machine is optimized to produce spiral springs with legs, and is not intended to be used to produce compression springs or tension springs.

Technical Data:	Smallest wire diameter	approx.	0.2 mm
	Largest wire diameter	approx.	1.5 mm (depends on torque)
	Smallest coil diameter (centerline to centerline)	approx.	2 mm
	Largest coil diameter (centerline to centerline)	approx.	30 mm (depends on torque)
	Minimum length of legs		1/2 of outside diameter
	Maximum length of legs		50 mm
	Maximum total length of both legs		100 mm (legs 2 x 50 mm)
	Maximum length of coil		42 mm
	Nominal RPM of winding spindle		300 RPM
	Nominal torque		33.6 lb.in (3.8 Nm)
	Fast vertical motion of winding spindle		49.2 ft/min (15 m/min)
	Force of cutting tool		562 lb at 72.5 psi (2500 N at 5 bar)
	Pneumatic operating pressure		58 - 116 psi (4 - 8 bar)
	Electrical power requirements	approx.	1.341 hp (1 kW)
	Overall dimensions (Length x Width x Height)		1420 x 505 x 610 mm
	Weight	approx.	200 lb (90 kg)

Pick and Place Load Station

(with Vibratory Bowl Feeder)



Complete Pick and Place Station

- Linear Unit (LH), Vertical Unit (VE), Rotary Actuator (ZD12/180), Mechanical Gripper (ZZ12, MZ 12)
- Vibratory Feeder with incline track and Rotary Actuator with single escapement
- Standard modular components (no custom adapter plates needed)
- Stroke and rotation adjustable with stop screws (also used for output signal)
- Up to 25 million cycle times
- Seal / Bearing Kits available for all meto-fer components
- PLC for Pick and Place available

**For more information, call 412-488-3488; 1-888-METO-FER (1-888-638-6337)
or visit our website: www.meto-fer.com**