CLS-16A

MEC 11-AXIS CNC EXTENSION SPRING MACHINE

For wire diameters of ø0.5 ~ ø1.6 mm

Coordinated control of coiling and hook end raising processes achieves stable continuous high-speed production.

The automatic programming and automatic outer coil diameter correction functions of the MPS (MEC Program System) make it easy to process various hook shapes.

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Features

High-efficiency production with coordinated control

Coordinated control linked to the extension spring processing can simultaneously process functions such as coiling, raising hooks on both ends, and discharging, allowing for stable high-speed production.

Improved operability with MEC Program System MPS

- The program editing function has greatly evolved, making it easy to create programs with various hook shapes and reducing setup time.
- Due to the servo motor controlling the coiling point, the program adjusts initial tension and diameter, forming for wires of different diameter, and U hooks.
- The transfer unit controlling the clamp by programming enables it to stop before crashing when swinging.
- Coil end is measured by the coil end alignment sensor. Outer coil diameter can be adjusted automatically.
- The MPS easily organizes important statistics about the machine, including program flow, operating status of each axis, inputs/outputs, jump, etc., as with our other spring machines.
- The multi-function production management system gives easy-to-control production.

The program makes it easy to configure extension springs.

A program is automatically generated by inputting dimensions when creating coils with various hook shapes.

Improved quality with dual feed roller and 11-axis control

- Due to the introduction of a dual feed roller, feed pressure load applied to the wire is reduced, making stable coiling possible.
- The 11-axis control gives easy control over feed, point, initial tension, torsion, cam, transfer, clamp, 2-tooling, and 2-tooling slides.
- With ability to adjust the transfer unit left and right, you only need to adjust once, which drastically reduces setup time.
- The cutting tool is able to move backward to prevent long stroke overshoot.
- The tooling unit raises both coil ends to form hooks in one maneuver. The angle and spaces clearance between hook and boil are equally the same on opposite sides, with high accuracy.
- The tooling configuration has a base, squeeze, hook tool, and 3-claw holders. A German hook can be made economical because it can be gripped with three claws instead of a mould tool matching the boil outer and wire diameter.

Main option

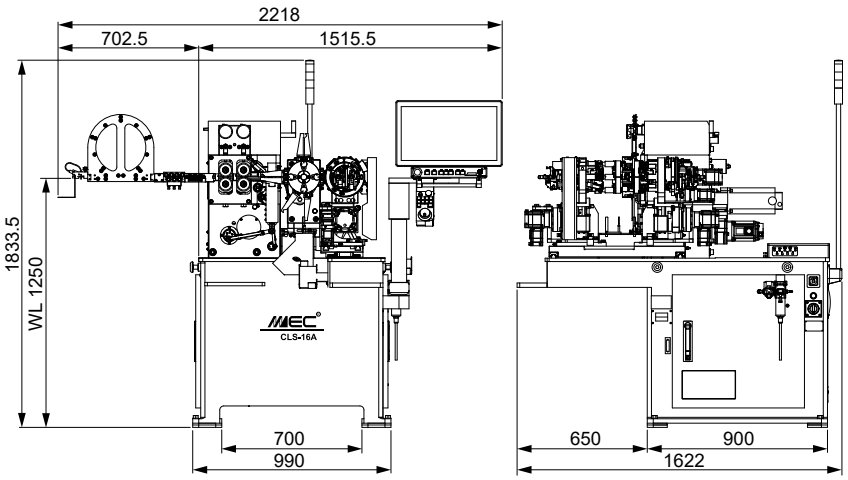
The automatic measurement system "**IS-1X**" by image processing and various laser sensor units enable advanced measurement of outer coil diameter, hook shape, space, etc.

MPS main program screen

Gives a comprehensive view of what is happening with the spring machine, allowing easy checking and adjustment of the specification pattern program and at-a-glance view of multiple axes' statistics.

Specifications

Unit: mm



Machine name	CLS-16A
Wire diameter	**ø0.5 ~ ø1.6 mm**
Outer coil diameter	ø20 mm
Index*1	D/d 4 or more
Closed coil length*2	WD x 12, ~ 140 mm
Max U hook length	30 mm
Feed axis*3	0.001 mm
Max feed speed	165 m/min
Point axis*3	0.001 mm
Torsion axis*3	0.001°
Initial tension axis*3	0.001°
Cam axis*3	0.001°
Transfer axis*3	0.001°
Clamp axis*3	0.001°
Tooling axis*3 x2	0.001°
Tooling slide axis*3 x2	0.001°
Max solenoid valves	8 pcs (Installed)
Air pressure	0.3 ~ 0.5 MPa
Power source	3-phase AC 200V, 20A
Net weight	1200 kg
Control device	Windows
Software	MPS
Display	21.5" Full HD touch screen
External memory	USB Thumb drive
Temperature	5 ~ 40°C

*1: May vary depending upon wire diameter.
*2: One side maximum is 100 mm when using the 3D bending attachment.
*3: Resolution:Program input unit, which does not represent accuracy.
Specifications are subject to change without notice for product improvement.

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