NEWS RELEASE

March 8, 2023
AMADA PRESS SYSTEM CO., LTD.

Launch of the “LM-16A” 15-AXIS CNC Torsion Spring Machine with Rotating Wire

Expanded processing range with the original, industry-first double-swing axis

LM-16A

See the machine process here

AMADA PRESS SYSTEM CO., LTD. (*Isehara, Kanagawa, Japan*) will launch sales of the “**LM-16A**” beginning March 8th. The LM-16A is a wire rotation torsion spring machine with a wire-rotating mechanism, eight processing slides, and 15-axis control. Torsion spring machines are spring formers that specialize in torsion springs, but can also be used for all types of wire processing forming including extension, compression and other spring forms.

The new LM-16A has processing slides split between four axes, each on the top and bottom. It is the first in the industry to have a double-swing axis with numerical control of the lateral movement of the slides. This enables a high degree of reproducibility and allows for finer adjustments and the avoidance of workpiece interference that occurs during the processing of complex shapes, expanding the processing range. The reduction of the setup time and workload leading to increased productivity and the installation area is roughly 40% smaller than that of the previous TM-20M, making factory layout simpler.

In recent years, in addition to the demand for greater quality and productivity in manufacturing, there has also been a growing need for automation and simplification of the setup process. This is in response to the backdrop of labor shortages due to declining birthrate, the aging population, and the retirement of skilled workers. The LM-16A offers a solution to these issues with the simplification and visualization of the unique spring forming program **MNO2**, as well as with a variety of other functions.

AMADA PRESS SYSTEM takes a comprehensive view of the manufacturing workplace of customers, providing support for the resolution of issues to make a wide-ranging contribution to manufacturing.

Features of the LM-16A

1. Achieve high-precision processing

The introduction of a dual feed roller reduces the feed pressure load applied to the wire making consistent, high-quality coiling possible. High-resolution servo motor control enables fine movement and high-precision processing.

In addition, the motor sensor system, which makes every slide a sensor, allows measurements such as the coiling angle and free length of coil to be taken in 0.001 mm units. The results are displayed in tables and graphs and it is possible to correct each axis.

2. Improved productivity with shorter processing time and setup work

A high-speed rotary servo slide reduces the time for bending work. The spinner tool is compact, but it allows the adjustment of the distance between the shaft and the outer pin, so it is not necessary to replace the pins for each different wire diameter. This reduces the work for repeat driving and quenching at the time of a replacement, thus reducing the setup time and running costs.

3. Improved operability with the MNO2 program

With the “MNO2” program specifically designed for spring forming machines, it is possible at a glance to know the program flow, operating status of each axis, inputs/outputs, and jumps. The navigation system and touch panel greatly improve operability, making program creation easy and reducing setup time. In addition, as support for IOT, the operating status of the machine can be monitored on devices such as a smartphone or computer, and periodic maintenance using the preventive maintenance functions contributes to improved production efficiency.

4. Solutions that meet your processing needs

A wide variety of optional units are available to meet various post-processing and measurement needs. This includes the “Air Grip Unit”, which enables processing after wire cutting to avoid interference, the “Outer Coil Diameter Servo Unit”, which uses a servo motor to adjust the outer diameter of the coil, the “Air Nipper Unit”, which prevents wear and damage to the quill, and the “Capacitance Sensor”, which measures free coil length.

Specifications

Model	LM-16A
Wire diameter	ø0.4 to ø1.6 mm
Standard control	15 axes
Maximum feed speed	160 m/min
Net weight	1080 kg
Control device	Windows
Software	MNO2

* The information contained in this release is current as of the launch date. This information is subject to change without notice. We would appreciate your understanding in advance.