

"WAFIOS Spring Coiling Machine FUL 56 with Attractive New and Further Developments - Now Even More Flexible and Productive"

The CNC spring coiling machine FUL 56 has already become very well established in the two years since its launch in 2012 and within a very short time has become one of the top-selling machines at WAFIOS AG. The machine will become even more interesting thanks to two new solutions which are unique in their kind on the market. One of them is a freely programmable cutting ellipse and the other is a software innovation to optimize performance by improving the cutting process.

When WAFIOS presented the idea of a freely programmable cutting ellipse ("Multi-E cut") in 2013, the response was overwhelming. In particular, spring manufacturers with a strong focus on the car industry were enthusiastic, as they are being increasingly confronted with demands to be able to freely adjust the burr at clutch and valve springs.

With the freely programmable cutting ellipse and a specially designed combination of a cutting mandrel and cutting tool, a wide variety of cutting angles can be set to meet the demands of the end user. Where there only used to be an "either/or" situation between a straight cut and a rotary cut, it is now possible to combine the advantages of both cutting types and, for example, using a narrow ellipse to make tighter spring indices with a rotary cut without having to live with the obligatory burr for the straight cut.

Mechanical conversion for the different settings is not necessary. Two additional CNC axes control the deflection of the cutting slide, one for right-coiled springs, the other for left-coiled springs. A tool catalog together with simple programming and simulation round off the "Multi-E cut" device.

A further, very interesting improvement has been developed with regard to the cutting process. Standard on all spring coiling machines in the FUL series is the so-called "optimized cut". Here the cutting axis does not wait until the feed stops, but accelerates in such a way that the cut can be made immediately when the wire stands still. Depending on the spring geometry, the machine's productivity can thus be raised by up to 30%.

This equipment has now once again been thoroughly revised and improved. The "optimized cut" now also works without any restrictions when the color marking detection unit is active and the deflection plate is used simultaneously (equipment for controlling the course of the initial coil).

Particularly in the production of springs with a high degree of initial tension, or when color-marked wire is used (standard, for example, in the case of valve springs), these options are entirely normal. That is why WAFIOS invested in this further development and can now present a very attractive solution at the WIRE 2014, which will enable the accustomed increases in performance from an optimized cut, even when the above mentioned options are used.

In a nutshell, it can therefore be said that spring manufacturers can **cut** a significantly better figure in the tough international competition with these innovations.



Fig. 1 WAFIOS FUL 56