

Reducing Costs per Unit through Highest Grinding Speeds - The New WAFIOS Spring End Grinder G6

A power pack full of innovative technology

Spring end grinding is the most expensive process in the production of compression springs. To increase the efficiency of the entire production line, WAFIOS has developed the new spring end grinding machine G6.

The machine can be set up with one loading plate (version G6-1) or with two loading plates (version G6-2). A maximum spring length of either 350 mm or 650 mm can be ground.

Even the standard versions of the machines have been designed with greater wall thicknesses and a special housing. In combination with ceramic grinding wheels, grinding speeds of up to 63 m/s can thus be reached for the first time. Grinding wheels with a diameter of 660 mm, as well as loading plates with a diameter of 580 up to 740 mm can be used.

Thanks to the newly developed and patented particulate deflector in the extraction channel, the depositing and caking of grinding dust in the interior of the machine is largely prevented. There is no more time-consuming and expensive removal of grinding dust deposits necessary anymore. The grinding room design was based on flow simulations. This and an innovative ventilation concept helped to considerably decrease the grinding cycle time.

The new dressing unit got a particularly robust design to ensure high accuracy even at high dressing speeds and to decrease unproductive times considerably. The freely traversable protective hood optimizes loading plate changing times due to a selectable opening stroke. Moreover, the well-accessible loading plate reduces set-up times when changing the loading plate.

The new table plate system is sandwich structured. This new design allows the alternating use of table plates with shortest set-up times. With the segmentation of table plates, the wear resistance of plates can be adjusted to the individual table plate areas' degree of wear. As a result, operating expenses and replacement costs are considerably reduced.

The technological novelties of the spring end grinder G6 significantly increase the machine's availability and productivity and thus reduce unit costs remarkably.

The possibility of integrating a patent-pending technique for measuring the spring temperature during the grinding process, opens up new ways for process control with maximum productivity while avoiding thermal damage to the spring.

Possible application areas for the new WAFIOS spring end grinder G6 are there, where a highly efficient, highly precise and high-quality grinding of compression springs (wire diameter 2 - 12 mm) is required, for example, in the automotive industry (valve springs, clutch springs, shock-absorber springs) and in mechanical engineering (springs for industrial stamping and punch presses) etc. Due to standardized connection possibilities and a new and ergonomic operating system, the machine can be integrated into fully automatic production lines.



Fig. 1: WAFIOS G6-135 Spring end grinding machine