

Press Information

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Utilise existing machine capacity:

Value-for-money surface microfinishing

Matzingen. In virtually all technical fields, the requirements placed on the quality of individual components are increasing. As a result of this, surface-improving and geometry-improving superfinishing techniques are gaining importance. Today, even smaller suppliers must be capable of working to the finest tolerances in dimensional accuracy. For these applications or small batch sizes, Thielenhaus Superfinish Innovation, Swiss subsidiary company of Thielenhaus Microfinish, offers various, partially further developed attachments for base machines. The advantages of the microfinish process can therefore also be used on conventional turning, grinding or milling machines, so that the surface, roughness, waviness and contact area percentage of the workpieces can be improved in a manner that is reliable in terms of process.

For example, the new tape finishing unit KG50 S is equipped with servomotors which have a high oscillation frequency of 3,000 DH/min. Thanks to its modular construction, it can even be adapted to the stone finisher. Good accessibility ensures that it is quick and easy to change the tape. Due to the rotational independence of the workpiece, the device is also suitable for the machining of camshafts. The new design ensures consistent tape speed and tension. This facilitates reproducibility and increases the precision of the finishing process.

With the abrasion produced sinusoidally by means of the oscillation, the softening skin produced previously during hard turning or grinding is removed, and the roughness, as well as the contact area percentage, are decisively improved. This enables a surface roughness of Ra 0.01 µm to be achieved with rollers and Rz 0.3 µm with bearing surfaces. At the same time, the sur-

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face can be given a structure with defined, criss-crossing grooves to improve its tribological properties.

Even though they're small and good value for money, the devices are nevertheless high-performance units geared towards three-shift operation. They are principally used for geometrical improvements in roundness, evenness and cylindrical forms. Surfaces can also be smoothed to a mirror finish, and definable levels of roughness can be produced. The residual compressive stress can also be raised in order to make the surface more wear-resistant. As well as chamfering edges and smoothing joints, the attachments can be used to achieve visual, cosmetic surface textures.

Microfinish attachments are particularly suited to the small batch sizes typically found in the production of hydraulics rods, components, sealing seats and shaft sleeves. However, larger individual workpieces such as calendar rolls, cold rolls, Sendzimir rolls and printing rolls can be worked to a mirror finish. Our competitively priced attachments are ideal for use wherever precisely defined and structured surfaces are required for small batch sizes.

Since the attachments can be used with many different base machines and special equipment, the workpieces are not dimensionally limited. Their form can be that of a flat surface, start-up shelves, external or internal rotationally symmetrical surfaces, but it can also be that of excentres, cams or cam discs. Further uses also include those involving spherical surfaces such as radii and undercuts.

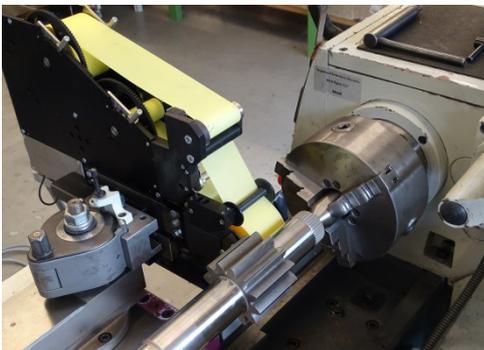
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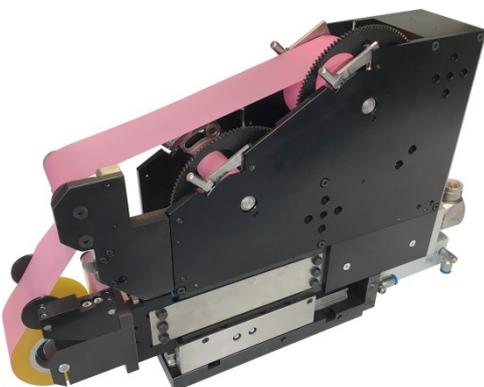
Picture captions:

<<1_Attachments>>



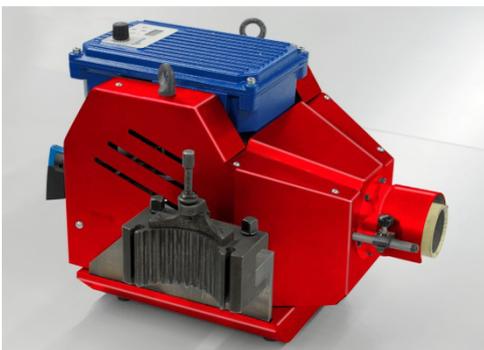
Thielenhaus Microfinish's attachments represent a cost-efficient opportunity to machine small batch sizes with finish tapes and stone tools using the base machines that you already own.

<<2_Attachments>>



The new tape finish device KG50 S is equipped with servomotors and has a high oscillation frequency of 3,000 DH/min. It is possible to adapt the stone finisher.

<<3_Attachments>>



Sphero mini compact finishing device for creating spherical surfaces using a base machine.

Photos: Thielenhaus Technologies GmbH