

One metre per second – that was the performance demanded.
Three metres per second – that was the performance actually supplied by WITTENSTEIN. It's simple arithmetic: workpiece machining productivity was trebled. TPM+ servo actuators built by WITTENSTEIN motion control have significantly improved the performance of SECKLER AG's brush deburrers.

Better than ordered



TPM+

WITTENSTEIN motion control's TPM+ motor / gear-head units impress with extreme compactness, high power density and reliable dynamics. Today, the TPM+ is used in more than 40,000 linear and rotary motion tasks.

SECKLER AG: Production automation, handling technology and customized mechanical engineering

From its headquarters in Pieterlen (Switzerland), SECKLER engages in international activities linked to the development and implementation of bespoke machines and systems – such as handling units for machine tools, pallet feeding, linkage and gripper systems for grinding and honing cells or special-purpose machines like brush deburrers.

"The components handled by our systems range in size from one gram to several kilograms and from one millimetre to fifty centimetres", explains Jacques Hess, Managing Director. "Our machines are used in the automotive and transportation sectors, hydraulics, pneumatics and medical technology as well as watches, jewellery and a wide range of consumer goods."



The highly compact design of the TPM+ permits space-saving integration in SECKLER deburo brush deburrers.

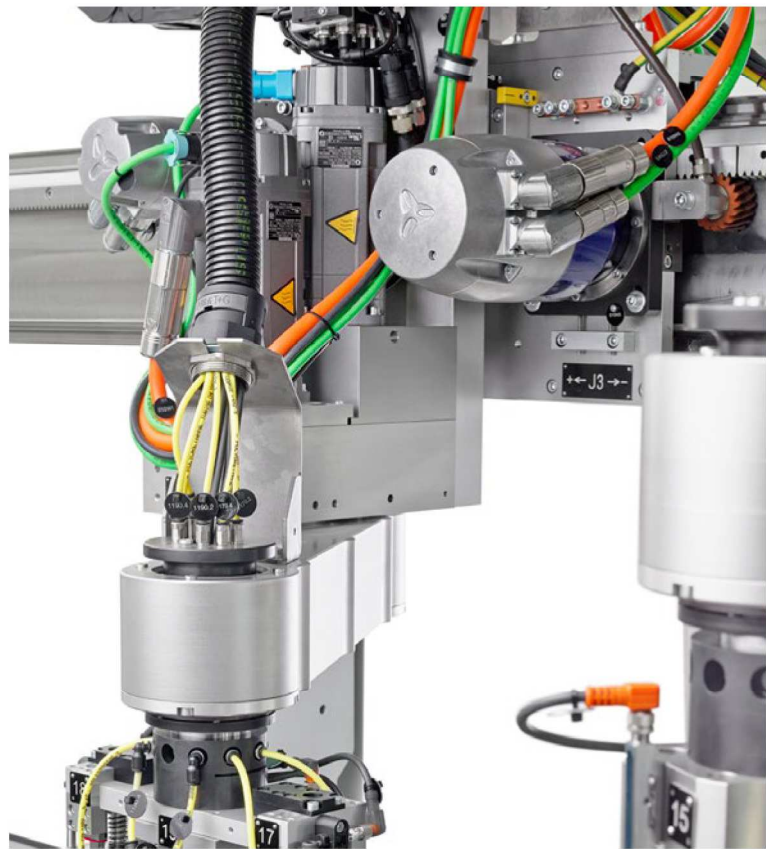
Jacques Hess, CEO of SECKLER, sums up: "If the individual work steps are accelerated, our throughput is higher and our running costs are lower". The faster and the more precisely the wire and abrasive brush units can be moved, especially in the X axis, the higher our brushing and deburring productivity. Yet the special dynamics were not the only challenge confronting the TPM+ dynamic and TPM+ power servo actuators.

A new dimension in dynamics and power

The brush deburrers in the deburo series were specifically developed for surface finishing in linear or rotary indexing processes. They are individually integrated in the customer's work steps and processes following machining operations such as milling, turning, grinding or honing. "When we designed an automatic fine deburring machine for hobbing workpieces, the customer specified a speed of one metre per second", Jacques Hess recalls. "That meant the servo actuators in the three machine axes had to meet certain dynamics requirements that the existing motor / gearhead units were unable to fulfil." And that wasn't the only problem: "At the same time, the motor / gearhead units had to have an extremely short overall length and run very quietly", adds André Müller, a sales engineer at WITTENSTEIN AG in Grösch (Switzerland).

TPM+ dynamic and TPM+ power meet all performance requirements

TPM+ servo actuators from WITTENSTEIN motion control were the perfect answer. "They're used at SECKLER as a rack-and-pinion solution that meets the specified performance criteria reliably and controllably", André Müller continues. To begin with, their power density is excellent. It's achieved with the help of a special design principle: the sun wheel of the gearhead is pressed directly into the motor shaft. The mounting dimensions of the servo actuators are much, much smaller as a result – with a total length saving of around fifty per cent. The helical toothing in the gearhead guarantees exceptionally



smooth running at the output, plus a very low noise level, with both the super-fast TPM+ dynamic and the high-torque TPM+ power. Finally, a movable lubricating pinion ensures an optimal lubricant film on the rack and the pinion – prolonging the life of the entire rack-and-pinion system.

Muscle packed solutions for more productivity

"Thanks to the servo actuators we got from our partner, WITTENSTEIN motion control, the system is better than ordered", Jacques Hess confirms. It's no wonder that the engineers at SECKLER have vowed to put their trust in the muscle packed servo actuators in the TPM+ series again in the future.

SECKLER modulo handling cell used to fit a grinding machine with an integral brush deburrer.

