**JUNE 2023 / EMO PRELIMINARY REPORT**

**Adjustable damped boring bar**

Long tool overhangs can cause a turning tool to oscillate when boring internal geometries. In addition to the resulting chatter marks on the surface, these vibrations also lead to a significant reduction in tool life. For unfavourable length/diameter ratios, the experienced machinist relies on vibration-damping boring bars, which enable low-vibration machining but which can still vibrate during certain machining operations. Paul Horn GmbH has addressed this problem and is presenting a boring bar at EMO in Hannover that can be adjusted to the vibration amplitudes that occur. Precise adjustment of the damping element in the boring bar enables a vibration-free grooving process. This results in better surface quality without chatter marks and a significant increase in tool life.

The exact adjustment of the damper, made of a carbide rod supported in O-rings, is made from the outside via an adjustment screw. Adjustment is achieved by fine-tuning the pre-tension of the O-rings. This allows the boring bar to be precisely set according to the vibration occurring in each application. As standard, Horn offers the tools from stock in the length/diameter ratios 5 x diameter and 8 x diameter. Higher ratios are possible as special tools. For the grooving processes, Horn offers the S224 double-edged grooving system. The Horn cassette system BK 224 ensures a stable interface between the boring bar and the inserts. To further increase process reliability, the boring bars are equipped with an internal coolant supply.

**Horn at EMO 2023 in Hannover**

Paul Horn GmbH will be exhibiting on an area of 580 square metres at EMO in Hannover from 18th to 23rd September 2023 in Hall 5, Stand A54. In addition to further innovations and product expansions, machining demonstrations will highlight numerous precision tools. Tool solutions, processes and exhibits are not the only focus, but also the knowledgable Horn team. Consultation - whether at the customer's site or at the trade fair - is part of the Horn philosophy. Markus Horn: "We are convinced that the optimum machining solution is created in conversation with our customers. At EMO in Hannover, we will advise our customers and interested parties on their current projects and challenges. As a precision tool manufacturer, we not only have to master the inserts, but the entire process right down to the material being cut."

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Picture caption: Precise adjustment of the damping element in the boring bar enables vibration-free grooving.

Source: Horn/Sauermann

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