**EMO 2017**

**Hall 5, Stand A54**

**Gear skiving: Fast and productive**

**New tools for gear cutting**

HORN's product portfolio comprises a wide range of tools for the production of various gear tooth geometries of module 0.5 to 30. Whether this involves gear cutting for spur gears, shaft/hub connections, worm shafts, bevel gears, pinions or customised profiles, all these tooth profiles can be manufactured extremely cost-effectively with milling or broaching tools. Now, the new skiving tool range is yet more testament to the company's gear cutting expertise. It is a process that has been in use for over a century – but has only been incorporated into a wider range of applications since machining centres and universal machines with fully synchronised spindles and process-optimised software have been able to accommodate its highly complex technology. HORN will be introducing some of the tools that this process requires at EMO in Hannover.

**Productive and cost-effective**

The new range consists of tools for high-yield manufacturing of internal gear teeth, splines and other internal profiles as well as external gear teeth with interferance. In these applications, the key advantages that skiving offers are significantly shorter process times in comparison to broaching, the ability to use the technique on optimised turning and milling centres, turning and gear cutting takes place in one set-up, the absence of undercuts at the end of the teeth, a manufacturing process that is generally more productive and cost-effective compared with gear shaping and broaching, and cycle times that are four to fives times shorter than those found in broaching processes.

Skiving tools are designed for gear cutting in medium to large batches. Each tool is individually adapted to the application and to the material being machined, with the various tool interfaces based on the number of teeth and the module size.

**Tools made of solid carbide or with an exchangeable head**

The range comprises tools in cylindrical or conical form for modules from 0.5 mm (0.0197") to 2 mm (0.0787"). The solid carbide tools are available with diameters of ≤ 20 mm (0.7874") and in a compact design. These are used for small modules as well as small components, primarily in applications that require a narrow shank due to the risk of collision. Cutting materials and coatings matched to the application achieve excellent surface qualities on the workpiece. Gear skiving tools with an exchangeable head system are used for diameters of ≥ 20 mm (0.7874"). The highly precise interface enables the cutting head to be replaced easily in the machine without the need to remove the holder. The solid carbide holder ensures a high level of rigidity, wear resistance and precision.

*2.653 characters incl. spaces*

**Image caption:**

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**Image 1:** Skiving tool in monoblock design.



**Image 2:** Designed for gear cutting in medium to large batches.

**Image credits:** Paul Horn GmbH, Nico Sauermann

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