# Hembrug Machine Tools refines the development of hybrid hard turning and grinding technologies

Integration of grinding technology in a hardturning machine saves process steps, costs and improves accuracies.  
  
**Haarlem - July 2019** - Hembrug Machine Tools, manufacturer of hard turning machines, works on the basis of market demands on the development of solutions in which finishing technologies are integrated in their hard turning machines. During the EMO, the MikroTurnGrind 1000 will be presented; a completely newly developed machine that combines the advantages of ultra-precision hard turning and fine grinding in one machine.

The MikroTurnGrind 1000 has been developed to meet the demand from manufacturers with complex workpieces, where a grinding finish on one or more surfaces after hard turning is required. By combining both techniques in the MikroTurnGrind 1000, hardened workpieces can now be machined completely in one set-up, which saves on process steps and costs. In addition, the absence of re-clamping errors results in the highest possible sub-micron accuracy.

The MikroTurnGrind 1000 has a B-axis that offers optional space for a revolver with 8 fixed VDI 30 tool holders, an external grinding spindle with a 300 mm diameter grinding disc and an internal grinding spindle. One of the grinding spindles can also be replaced by a milling spindle. The MikroTurnGrind 1000 has a maximum machining capacity of Ø 380 mm (flying) or Ø 200 x 1,000 mm between centres. Automation is optional possible.  
  
For its existing hard turning machines without a B-axis, Hembrug now also offers a hard-turn/fine-grinding option with the stone finish technology of PTGoldAU UG, called KombiFin. Hembrug offers this exclusively for its hard turning machines. KombiFin technology is a small, sensory stone finish unit that can easily be integrated into the tool changer of a modern hard turning machine, such as the Mikroturn 100.   
  
Thanks to the integration of these systems in the Hembrug Mikroturn® machines without B-axis, the finishing process is now also available for manufacturers of smaller workpieces over a wide variety of workpiece types. A separate finishing operation on a dedicated machine is therefore no longer necessary. This saves process steps, costs and results in a very low surface finish (< 0.3 µm Rz) and form accuracy. (< 2 µm). At the EMO Hembrug will, together with PTGoldAU, show the possibilities of this technology.

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Hall 17, Booth C19

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