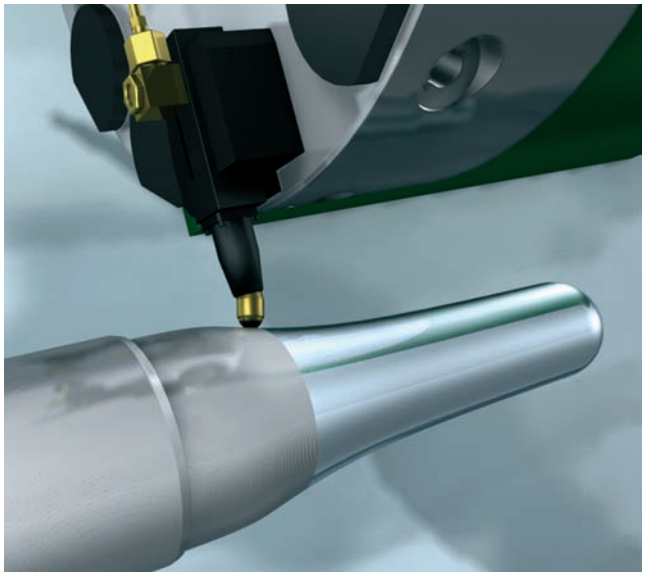
Type HG Tool Applications: Complex contours and deep rolling



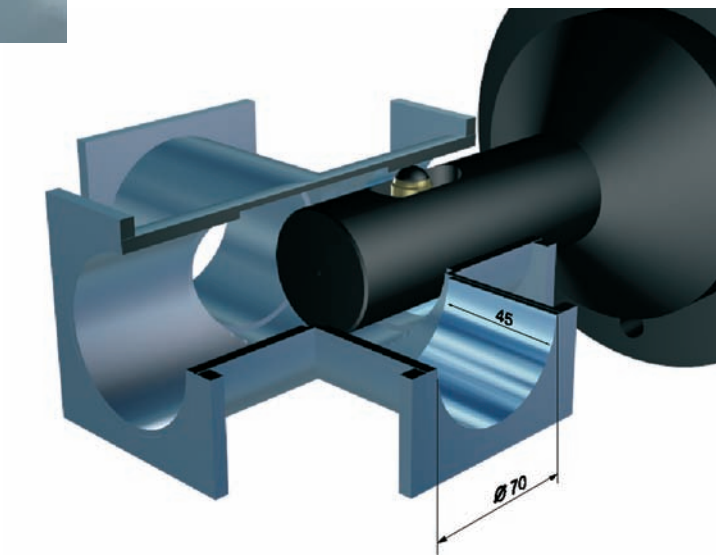
Machining a hard, contoured mandrel with an HG6 tool eliminates manual polishing.

The ECOROLL HG tools can often machine complex shapes that standard roller burnishing tools cannot.

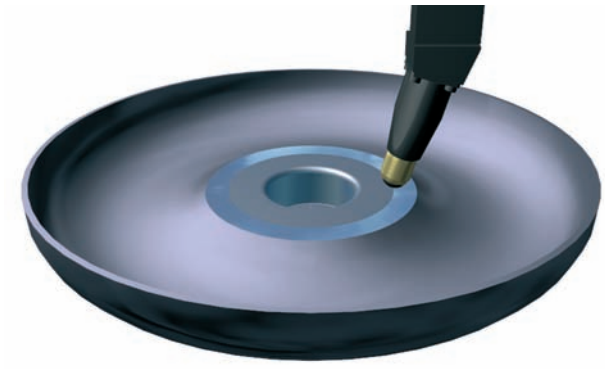
The hydrostatically loaded ball can freely rotate in any direction within the ball retainer, even at high speed.

The hydrostatic bearing maintains a supporting fluid film between the ball and the ball seat, independent of the distance between the tool and the workpiece.

The HG tool's unique following system enables the burnishing ball to follow the workpiece contour while maintaining a constant burnishing force.



Machining a valve housing with an HG13 tool.



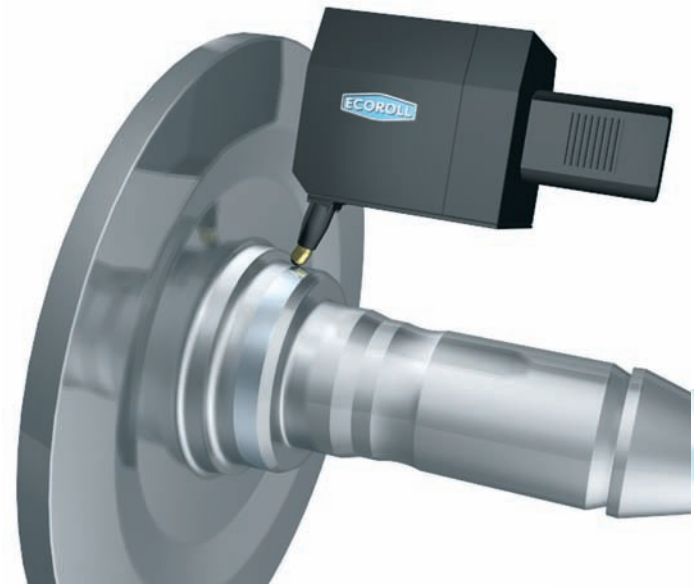
Roller burnishing a torque converter housing with an HG13 tool to improve its sliding properties.

Deep rolling with HG tools dramatically increases the fatigue strength and operating life of dynamically loaded parts and components contstructed of lightweight materials.

The process induces residual compressive stresses in the component's surface layer and simultaneously improves the material's strength and surface finish through plastic deformation, or cold working.

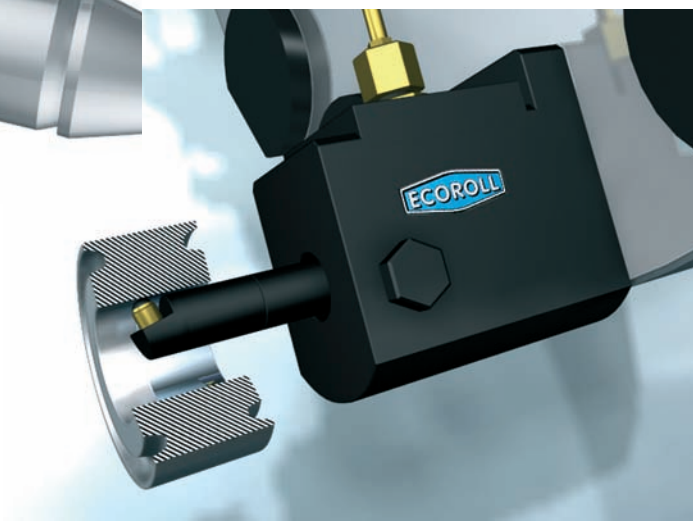
Type HG Tool Applications: Hard roller burnishing

With the exception of HG2 and HG25, the entire HG tool line can burnish hardened steel and other alloys with hardnesses up to 65 HRC.

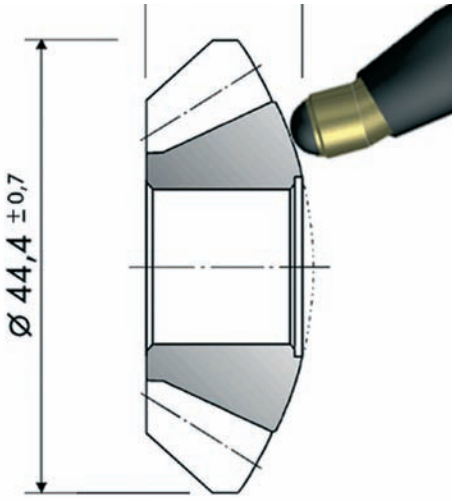


Using the HG line of tools reduces overall machining costs. One HG tool can be used for multiple applications.

Deep rolling the fillet radius of an axle shaft to increase fatigue strength.



Hard rolling a roller rocker arm with an HG6 tool eliminates an extra lapping operation.



Machining a bevel gear with an HG6 tool.

How to order:

HG tools are available in a wide variety of versions. Please refer to the information on page 35 and the naming conventions listed on the following page.

Tool type and ball size — **HG13–9–L–15°–SLK–25**

- *Design version*
- *Setting angle* **α**
- *Shank size*
- *L = left-handed*
- *R = right-handed*
- *K = ball (HGx–6)*
- *H = fillet (HGx–6)*
- *VDI = VDI shank*
- *SL = square shank*
- *SLK = short square shank (tool holder DIN 89880)*

Tool type and ball size — **HG6–5–E–90°–VDI20–Sauter**

- *Design version*
- *Setting angle* **α**
- *Turret head manufacturer (only HGx-5 and HGx-6)*
- *E = one burnishing element*
- *Z = two burnishing elements*
- *VDI = VDI shank*
- *SL = square shank*
- *SLK = short square shank (tool holder DIN 89880)*