Innovative Tool Solutions for Hydraulic Components Machining

Hydraulic valve bodies and steering units in various designs are some of the most widespread components made of grey cast iron, aluminum and steel. Most producers of these hydraulic components face the same challenges when machining these elements.

WOLF, the customer oriented technology partner, offers one-stop high-end machining solutions to cope with these manufacturing related issues. Thanks to the high technical understanding of the machining process and the close connections to development and application technology, it is possible to successfully face the increasing requirements towards component quality and growing cost pressure using adapted machining concepts.

Thanks to the years long and intensive cooperation with numerous customers and leading universities, WOLF has become a recognized technology partner in the production of hydraulic components. The combination of high grinding and machining expertise leads to technologically useful and economical machining solutions.

Besides producing drawing based VHM special tools, WOOLF also manufactures soldered step countersinks for machining of the various assembly chambers of hydraulic components. The tool specific and high-quality regrinding service also belongs to WOLF's services.

Your Advantages

+ **Productive and high precision tool solutions**
+ **Highly reproducible tool quality**
+ **Technology partner for your machining needs**
+ **Customer near application technology**
+ **Economical machining processes**
+ **Highly precise components**
+ **Worldwide regrinding services**

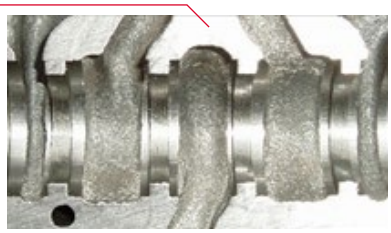
Machining of piston and slide bores

The machining of piston bores, in hydraulic valve bodies and hydraulic pumps etc. made of cast iron, often present some challenges during the machining process. The rings a reamer produces in the borehole for example, which then remain inside the workpiece, are a common problem.

The subsequent manual removal of these rings prior to fi nishing / assembly is time consuming and expensive. The WOLF tool concept hence aims at a signifi cant reduction of machining time with the best possible component quality.

+ Precast bore

+ Machined bore



Pre-drills

The spiral-cut VHM pre-drill with ALSiDUR coating allows for a significantly reduced cycle time and an extended service life through increased cutting speed and faster feed.

Process reliability is thus greatly increased.

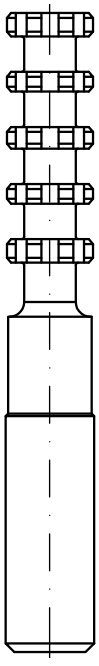
Reamer

The spiralled reamer, in conjunction with an adapted process strategy, allows for a straight bore with excellent bore quality and tight tolerances.

In addition, the cycle time is often reduced by more than 50%. Problems with ring-shaped chips are avoided and by using the ALSIDUR coating a more economical service life is achieved.

Profile milling cutters

Thanks to the VHM profi le milling cutter, it is possible to machine the grooves or control edges in hydraulic slide bores in just one operation. In some cases, half of the grooves or control edges are machined by one side of the slide bore, while the remaining half are machined by the other side of the slide bore.



Additionally, the tool can also be used in conjunction with cavity bores. It is a special tool designed to allow the machining of grooves or control edges in cast iron materials, while also being suitable for aluminium and steel.

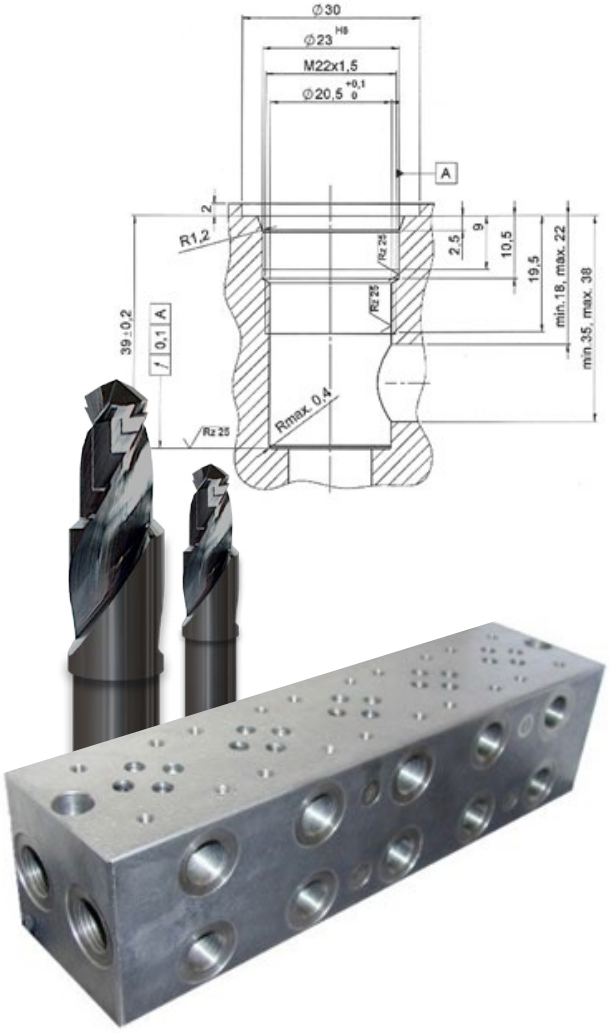
It reduces the processing time by 25-45%.

Machining of valve or cavity bores

When producing valve and cavity bores, the use of individual WOLF special tools allows several machining operations to be carried out with just a single tool.

The reduced tool change times and the lowered procurement costs, which would incur using standard tools, can greatly increase the profi tability of the manufacturing processes.

Thanks to the increasing product individualisation and the associated decreasing batch sizes, WOLF special solutions make enormous savings possible.



Result of the WOLF tool concept

+ **Reduced machining times**
+ **No vibration**
+ **Safe process**
+ **Drilling tolerance: H7-H8**
+ **A straight bore**

Processing connecting bores

When producing connecting bores, the complete drilling must be carried out in a single processing step. Machining must be vibration free to maintain tight dimensional tolerances and perfect surface roughness. In this case step drills using special VHM blanks with purpose built cooling channels are used.

Tools. Coating. Molds & Parts.
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WOLF

Customer specific tools and services

Thanks to our air-conditioned production area with modern CNC tool grinding machines and our own in-house coating we are able to deliver to our customers quickly, individually and at highest quality.

Customer specific tool development and application consulting belong to our services.

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