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Wire erosion – a leading technique for production of PCD tools in the metal industry

Erosion technology has led the way for many years when it comes to machining metal-cutting PCD tools. Nowadays top standards are required and achieved in terms of precision and surface finish – standards which were previously impossible with erosion. For these tasks, VOLLMER offers a high-tech range of machines with both wire and disk electrodes. Wire erosion has now established itself across the board as the leading production method for PCD tools in the metal industry – not least due to its versatility, and the considerable benefits this brings for the user.

The increasing use of lightweight construction materials and modern composites has led to highly complex machining tasks in all metal cutting processes such as drilling, milling, reaming, countersinking, screw-tapping, etc. Erosion machines provide a highly economic way of machining PCD tools both for production and sharpening purposes. Constant refinement and optimisation has resulted in a high level of machine efficiency. A basic distinction is made between machines with wire and disk electrodes: both are offered by VOLLMER in its extensive “Q series“ of machines.

VOLLMER wire erosion machines are equipped with two rotary CNC axes in conjunction with three linear axes and the option of a tail centre for machining tools with centres. All five CNC axes work on the principle of path interpolation. The free tool programming allows even complex geometries such as profiles and bell-shaped tools to be machined – a key factor in the versatility of these machines.

The wire electrode is continually renewed, thus guaranteeing original conditions at all times at the point of erosion. This lends maximum precision to the cutting edge geometry. In addition, the combination of VOLLMER wire technology and expert software allows a maximum of variants while ensuring plenty of scope for development of the cutting edge geometries.

The VOLLMER QWD series

At present, the majority of PCD tools are finished with VOLLMER wire erosion machines. This removes the need for any refinishing work such as grinding – one reason for the high economic efficiency of production and servicing. The combination of automatic measuring and erosion in a single clamping fixture and expert software for individual machining of complex workpiece geometries enables the wire erosion machines QWD 750 and QWD 760 to produce optimal results in terms of precision and economy.

The automation of the wire erosion machines QWD 750H and QWD 760H with magazines for workpieces such as milling cutters, multi-stage tools, reamers, etc. allows round-the-clock operation – in three shifts, including weekends – a vital condition for top economic efficiency.

For complete details contact Vollmer Of America; 105 Broadway Ave. Carnegie, PA 15106;
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About Vollmer Of America

The VOLLMER Group has evolved as the specialist in re-sharpening and production of PCD tooling, Carbide-tipped circular saws, HSS circular saws, and Band saws. VOLLMER Technology & service offers the latest in grinding, erosion and conditioning machines for tooling and circular saw and band saw blades used in woodworking, metal-cutting, and the processing of composite materials.