
PRESS RELEASE

Investment in machinery for a higher customer satisfaction – Braunform sets a new quality benchmark with the help of a Makino-5-axis control machining center

Outstanding customer benefit and a high customer satisfaction are firmly anchored in the company's philosophy as the ultimate ambition. This investment in machinery of the mold shop is another logical milestone of fulfilling the requirements of our customers reliably.

As one of the first of the industry Braunform is working with the vertical 5-axes-highprecision-machining center V33i-5XB of the manufacturer MAKINO which considers both precision- and productivity aspects. To completely satisfy the special needs the machine was individually configured by the Braunform technology team.

The high-speed machine with a spindle speed of 40.000 rotations per minute operates 90 % of its capacity milling granitic electrodes and the other 10 % HSC-milling of steel. Due to a special extraction of granitic dust the removal is possible without contamination. The 120-slot tool changer guarantees a high range of tools which avoids frequent changeovers and extends the machine running time. The tooling costs are also 15 – 20 % lower as a result of the optimal machining strategy milling with 5 axes.

The system enables a multilateral processing of technical and optical sophisticated electrodes with hard reachable areas and free formed surfaces due to the five axes. Thereby not only the set-up time is reduced by 30 – 40 % but also the machine runs automatically, without an operator. As a result personal capacities are released. The utilization of the machine is about 20-22 hours per day, seven days a week.

Another aspect is the precision of the surface processing of electrodes: Due to excellent rotational characteristics and highest thermal stability it is possible to mill surface without any unevenness in an accuracy of up to $\leq \pm 3 \mu$. Based on a high precision and the best contour accuracy the erosion process obtains optimal starting conditions which avoid manual rework.

Technical facts:

Makino V33i-5XB | MAKINO PRO5-control (FANUC-based)
paths of traverse: X=650 mm , Y=325 mm , Z=350 mm , B=130°(-20° until +110°) , C=360°
spindel speed: 40000/min HSK E32
tool change: 120-fach
work piece change: Erowa Robot Compact , 88 electrodes ITS 50 , 10 work pieces ITS148