



With IndraMotion MTX and IndraDrive, Bumotec realizes high-precision, flexible NC milling center for watch parts

NC milling round the clock: fast, precise, multi-variant

Flexible milling instead of complex drilling: With the high-precision milling center “s100multi”, designed for continuous operation, Bumotec lays the foundation for a fast and flexible production of watch parts. The drive and control concept is born of the close engineering partnership with Bosch Rexroth and due to extreme precision it achieves clear efficiency benefits over conventional technology.

When manufacturing mechanical wristwatches, not only extreme precision, but also efficiency is essential. Machine tool manufacturer Bumotec meets both requirements. The four milling stations of the new NC milling center “s100multi” work parallel, a second Z axis each equips the next tool. Result: an extremely short chip-to-chip time of only 0,5s. The performant CNC platform IndraMotion MTX creates the conditions for the precise and fast milling with up to 80 tool changes per workpiece. It calculates the milling curves for round and oval recesses with a resolution of 0,005 µm and controls the interpolating axes.

Convincing solution for drive and control

With a view to the greatest possible productivity gain for their customers, Bumotec closely involved Bosch Rexroth in the engineering from the beginning. As a result, the chosen IndraMotion MTX gives impressive proof of its high computing power, even with more than 20 axes and several parallel processing steps. The performant IndraDrive servo drives convince with a traverse speed of 50m/min and nearly 3g acceleration. The provided precision is still maintained even in continuous operation. Further advantages for the user: diverse batch sizes can now be produced flexibly and so far manually performed work steps like deburring or decors can be automatized.

Challenge

Drive and control concept for a flexible high-precision NC milling center for the efficient processing of watch parts.

Solution

Joint development with Bosch Rexroth: basis: CNC platform with multi-core system and high-precision servo drives.

Result

“The system of IndraMotion MTX and IndraDrive servo drives was highly accurate and could even surpass our demanding specification.”

Dr. Patric Pham, Bumotec



Solved with

- ▶ Engineering partnership with Bosch Rexroth
- ▶ CNC platform IndraMotion MTX
- ▶ Servo drive system IndraDrive

