THERMAL COMPENSATION IS THE NEW STANDARD FOR HURCO MACHINES IN THE DI SERIES

Produce components with consistent accuracy even at varying temperatures

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Milling processes must meet ever-higher precision requirements. Tolerances in the single-digit micrometer range are no longer an exception. In order to meet such specifications on a permanent basis, a high degree of thermal stability in the manufacturing system is essential. This also includes the machine. HURCO is therefore now equipping the models in the “Di” series

with thermal compensation as standard. Depending on the model, year of manufacture, and software, existing machines can also be retrofitted with this feature. The technology is particularly suitable for series production, components with long run times and tight tolerances, and 5-axis machines.

The generation of heat is unavoidable during machining. As a result, the spindle expands, causing the tool to deviate in the X, Y, and Z axes. HURCO's thermal compensation monitors such thermal changes with real-time sensors in the head assembly and transmits them to the machines' "WinMax" control system. The control system uses the data to continuously calculate and make the necessary adjustments. These adjustments are based on a large number of tests and models for each individual HURCO machine model. The system compensates automatically without the operator having to intervene.

The market demands consistent precision

Depending on the machine model, the negative impact of spindle growth on component accuracy is reduced by up to 80 percent. With this thermal compensation, HURCO ensures that the machines produce components with consistent accuracy even at varying temperatures. This is particularly advantageous for long machining cycles, where the increasing amount of heat in the system can cause growing expansion. The HURCO control compensates for this heat-induced change. This ability to deliver consistent results under variable temperature conditions and maintain demanding tolerances facilitates all precision machining.



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