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AxiCheck

PLAN YOUR MAINTENANCE

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Description

Parallelism of the axis of rotation and accuracy of its center are two fundamental characteristics for the proper functioning of a machine tool with rotary axes; AxiCheck is a MARPOSS software package with graphic interface that allows the control and the optimisation of the performance of rotary axes. In a few moments the user will be able to identify and correct errors that inevitably affect the accuracy and geometry of the workpiece. Thanks to its speed of analysis and accuracy, AxiCheck inspects the state of health of the machine, thus contributing directly to the improvement of the production process. In this way, the production of waste parts can be reduced, especially when single batches of very expensive parts are produced.

Developed for installation on a PC, AxiCheck analyses collected data with MARPOSS probes and processes it in graphic format: once MARPOSS measurement macro have been executed, the collected information is transferred to the PC oon which AxiCheck is installed.

Advantages

- Machine error detection;
- Increase of production capacity
- Reduction of the production of scrap parts and rework of the part
- Visualisation of error evolution, with alarms thresholds for maintenance planning
- Detection of parallelism errors of the rotary axes and centers of rotation of the machine

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AxiCheck makes measurements to determine the reference values on a calibration sphere, mounted on the machine table, thanks to which it is possible to analyse the operating state of the machine. The collected data can be displayed in graphic form, so as to make its interpretation clear and intuitive. With AxiCheck it is possible to access the database for a consultation of the collected data and to display a summary, over time, of the data of the machine whose state of health is being analysed.

The automatic control of the correct functioning of rotary axes of the machine favours the maximisation of the efficiency of the production process. This happens when the machine tool is able to execute the cutting program precisely and accurately, respecting the desired tolerances on the workpiece. Subsequent machining and rejects greatly increase process time, causing a considerable economic loss.

The quality of a part is first of all linked to dimensional and geometric accuracy: in this sense a key role is played by the kinematics of the machine, where the onset of undesirable and uncontrollable dynamic phenomena influences the precision of the entire machining process.
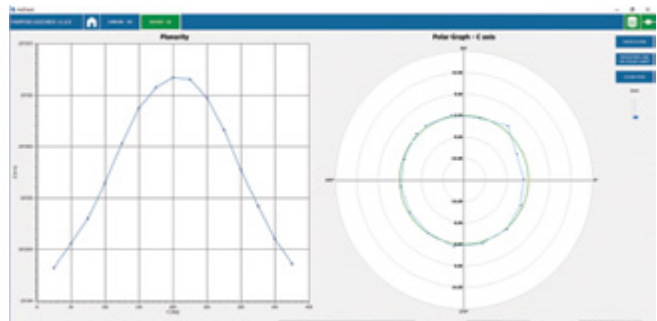

Graphic of the planarity and rotary


Evolution of errors over time

Even 3-axis machine tools are subject to different degrees of error: in order to avoid negative effects on the accuracy of the positioning of the axes machine and the machined parts, Marposs has developed an easy to use solution that allows the immediate detection of errors. It often happens that you notice the degradation of the accuracy on the positioning of the axes along the way, during the production of the parts. Having a system to detect these inaccuracies and evaluate the performance of the machine before starting the machining process allows to optimize time and production, to reduce costs of machined parts and to avoid premature wear of the tool.
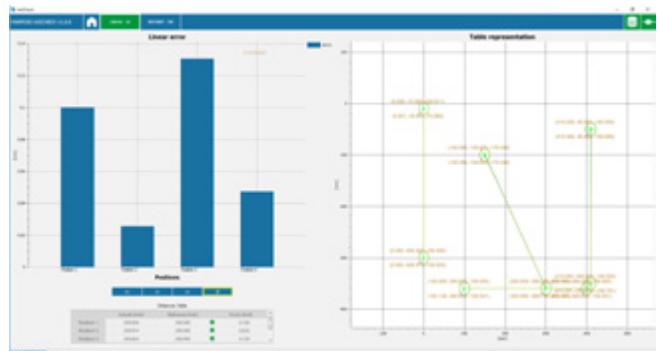
Deterioration of the accuracy of the machine axes positioning

Key points of AxiCheck:

- Continuous monitoring of machine tool performance
- Production of data necessary to compensate linearity or circularity errors of the axes
- Historical of the evolution of geometric errors of the machine
- Graphic visualisation of the status of linear and rotary axes
- Warning and alarm messages if the measurement is out of tolerance
- User-friendly interface
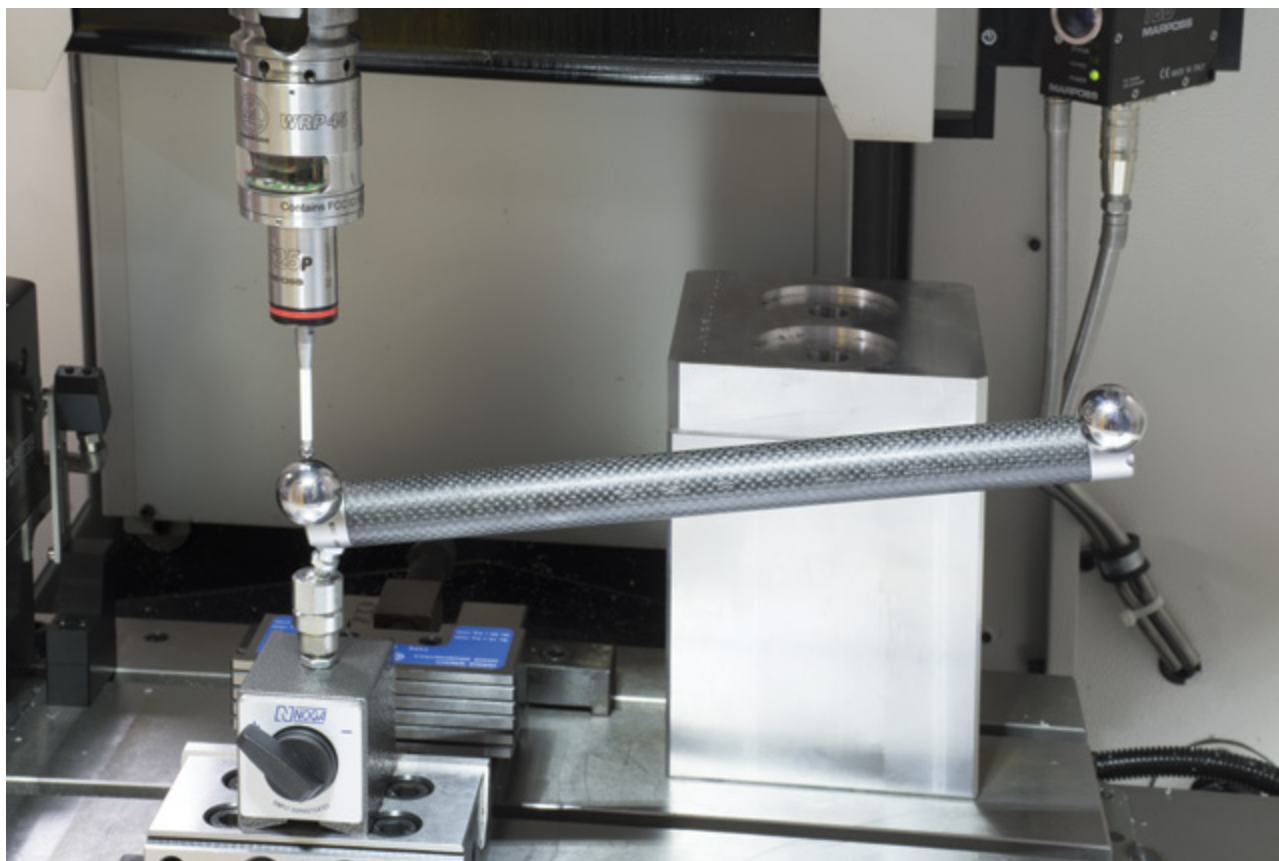
AxiCheck 3 Ax Master

For a full list of address locations, please consult the Marposs official website

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