



STW TEC

ITM

smart
machine

Intelligent
Tool
Measurement

EN

+GF+

AgieCharmilles

Tool measuring with an optical capture tool

At tool measuring the accuracy is depending on the measuring equipment. You have confidence that the given result is the same as on the used tool. In a work area, we find often dirty tools. When using a tool blow of unit the tool surface is never absolutely clean, even if you blow away several times. Often there are rests of small chips or from coolant. These will cause an inaccurate measuring result at a one dimensional measuring with i.e. laser, which reacts to the beam interruption. The measured values will be taken over as absolute values in the tool table. In a

perfect environment you will receive a value which is accurate to the tool. In a real environment this value will be different than the used tool, because the laser can not make a difference if there is a contamination or the tool has interrupted the beam. Mikron Agie Charmilles AG created the ITM Intelligent Tool Measurement, which avoids this problem with Digital Cleaning.

How it works

A camera measures the tool and analyzes its form (length, diameter, blade quantity, radius etc). The result will be compared with the real image of the tool, which has been input before. With the digital tool cleaner "Digital Cleaning" the tool will be cleaned from all residues digitally. Contaminations like i.e. a drop on the blade, chips or dirt which are accumulated on the tool and therefore can adulterate the measuring and affect to the milling result, will be obliterated digitally with ITM.

Your benefit

- Visual tool controlling with Tool Inspect (Option)
- Digital cleaning of tool
- Increase of part- and surface quality.

Measurement uncertainty length precision measuring:

- Tools $< \varnothing 6\text{mm} : \pm 0.7\mu\text{m}$
- Tools $< \varnothing 12\text{mm} : \pm 0.9\mu\text{m}$

Measurement uncertainty diameter precision measuring:

- Tools $< \varnothing 6\text{mm} : \pm 0.7\mu\text{m}$
- Tools $< \varnothing 12\text{mm} : \pm 0.9\mu\text{m}$

The typical measurement uncertainty with used or dirty tool is factor of 3 higher.

The process and measurement know-how of Mikron AgieCharmilles is supported by **conoptics** measuring instruments.

