

JTEKT Smart Cutting

When a long tool is used for deep cutting of dies, etc., the chatter phenomenon is frequently caused by tool deformation. To avoid the chatter phenomenon, trial machining was conducted before actual cutting conventionally in order to select the machining conditions (spindle speed) that do not cause chatter. The optimum conditions that do not cause chatter are, however, extremely limited and consumed a large amount of man-hours of the expert technicians for determining such conditions. To address the issue, we have developed the JTEKT Smart Cutting technology capable of deriving the optimum machining conditions by measuring the dynamic characteristics of the tools including the spindle through simple hammering which can be performed by anyone, and installed it in TOYOPUC-Touch as an option, by which trial machining is not required even when a long tool is used.

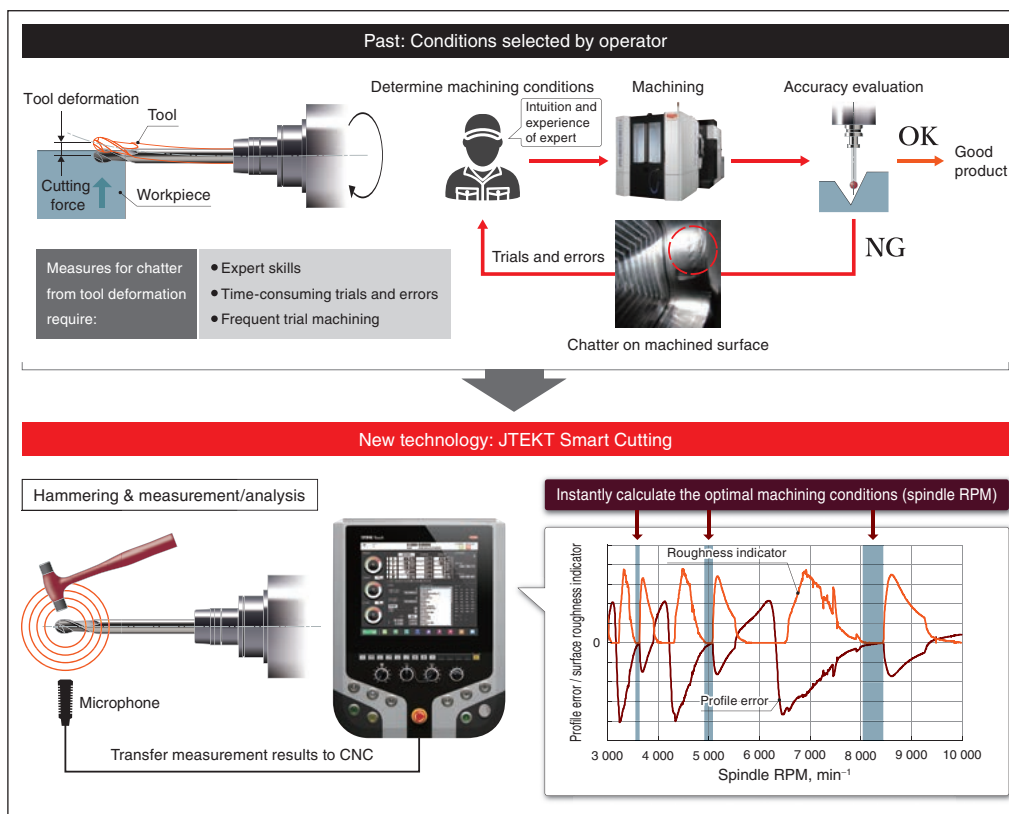
Features

The optimum machining conditions (spindle speed) is instantly calculated from the tool dynamic characteristics through simple hammering.

Results

Man-hours are significantly reduced by eliminating the need for trial machining (90% reduction: a result of cutting dies by JTEKT)

Configuration



Applicable area

Process	End milling (side face cutting)
Tool diameter D	φ4 to 20mm
L/D ¹⁾	7 or more
Analysis range (spindle speed)	2 000 min ⁻¹ or more

1) L/D: L (Tool protrusion length)/D (Tool diameter)

*1 TOYOPUC is a registered trademark of JTEKT Corporation.

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