

Tool Doctor

Tool Monitoring System



Monitoring Solution for
Cutting Tool

 **KORLOY**

Tool Doctor?



Tool Doctor is a tool monitoring system that detects cutting load such as voltage and currents in real time. It also controls the load at the desired time based on scientific graphs, preventing defective products in mass production for the clients.

Highly recommended for..

Point »
1

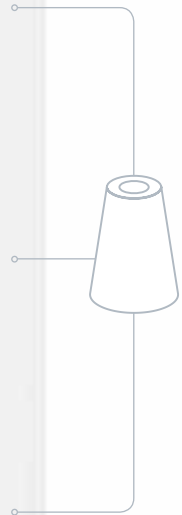
Manufacturing sites with poor product quality due to wear and breakage of tools during a mass production process.

Point »
2

Manufacturing sites with poor product quality due to process omission and rework during a mass production process.

Point »
3

Manufacturing sites to manage the quality of customers' facilities through mechanical inspection such as vibrations, noise, and torque at spindles



Korloy Tool monitoring system



Features of Tool Doctor

Control Management



Simultaneous Measurement



Detection Capability



Detection Time



Language Options



GUI Configuration

- Windows 7 and Linux PC-based tool monitoring S/W
- Saves backup files of the detected data for 30 days (integrated management of Wi-Fi network is optional)
- Provides three shut down modes when detecting any tool defect: immediate, after process and after machining
- The spindle load of the maximum four machine tools can be monitored simultaneously. (A separate sensor for each machine and modules required)
- For the first time in Korea, damage can be detected when processing aluminum taps of $\varnothing 3.5$.
- Detection sensors by tool load type available: current, voltage, and vibration (the vibration sensor is optional)
- Performs real-time monitoring
- Uninterrupted C/T
- Korean, English, Chinese and Japanese (Provides another language option upon request)
- Sets tool load and the facility dynamic range
- Sets the tool management trend → Diagnoses tool life



Load on the spindle



Installed within the equipment



Benefits of Tool Doctor



- Improved productivity (c/t)
- Longer tool life
- Quality stabilization
- Extended machine life

Tool Doctor monitoring solution for cutting tool



UP

Components of Tool Doctor

SENSOR



Current

Voltage



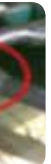
SENSOR MODULE



ACOUSTIC EMISSION SENSOR



lle



quipment



DOWN

- Detects tool damage
- Reduces tool costs
- Prevents a large volume of defective products
- Prevents collision to facilities

MACHINE (Relay or protocol)

Processing signal (Code M)
Tool signal (Code M)

Processing and tool signals

Alarm and feed hold

PC

Data

Data

Stop signal

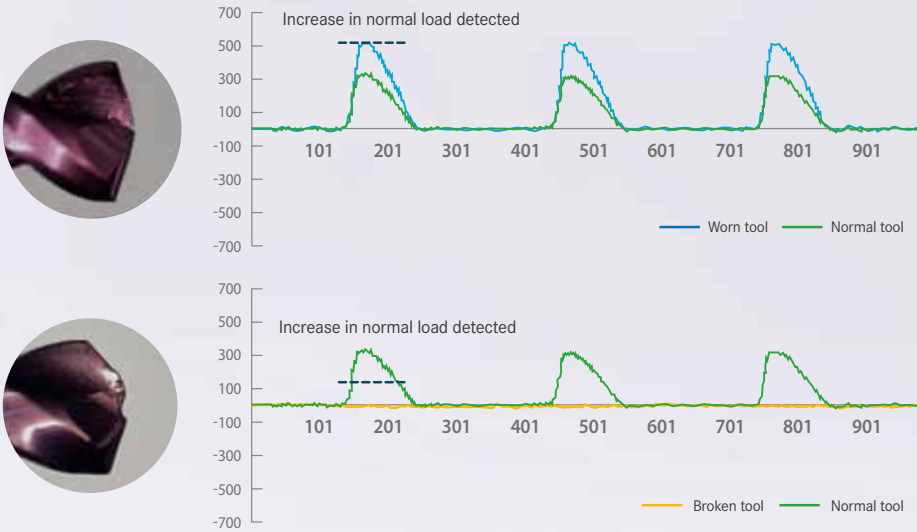
SIGNAL TERMINAL

Displaying the data graph,
alerts and data saved per tool.

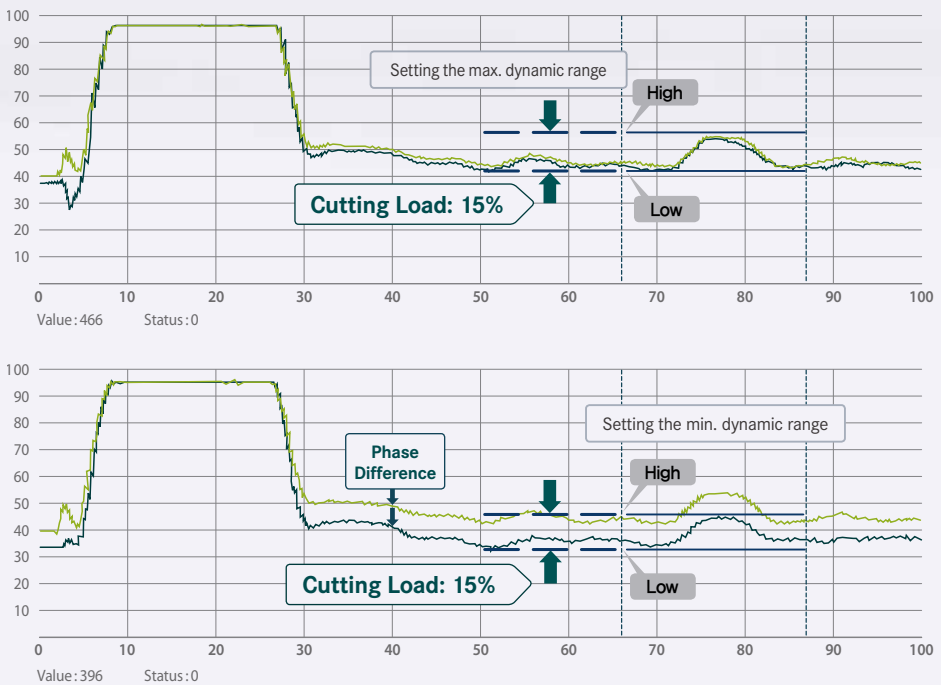
Application examples of Tool Doctor

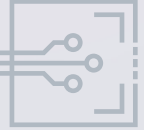


Detection of tool load

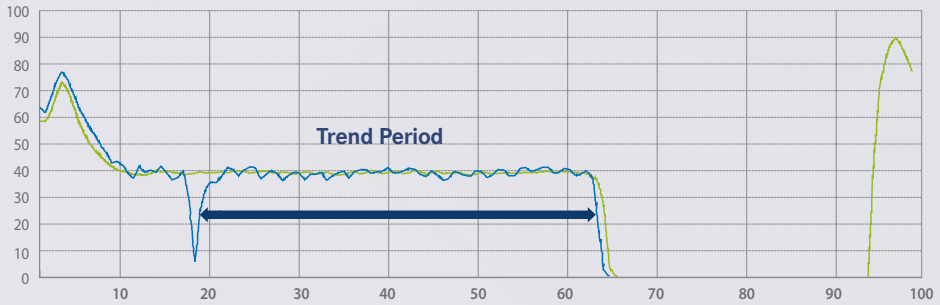


Detection of load from external environment such as facility voltage

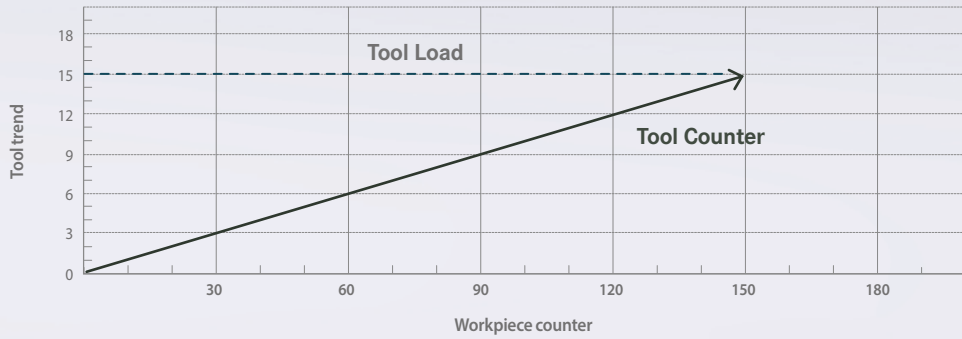




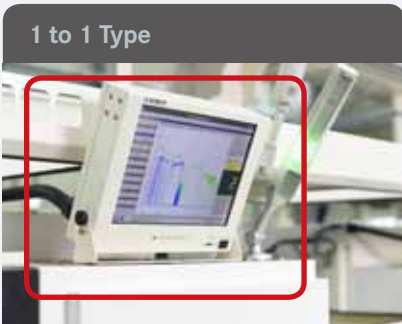
The tool management trend (Managing tool life)



Managing tool life



Installation examples



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