

TOOLS & MACHINE MONITORING SYSTEMS





SafePilote

collision.

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Monitor and Analyze Machine's Health

Excessive vibrations during machining are one of the main sources for degrading the quality of your production. This system helps you keep your machine working in good condition. Its very high sensitivity also gives you the ability to detect out-of-balance problems with your high-speed tooling. SafePilote MCM acts as a true "black box" that will allow you to track all unexpected events occurring during the use of the machine. Each alarm is stored in the system's memory with the corresponding shock and vibration curves.

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HSM

SafePilote HSM detects metal chips between the tool and the tool holder. This very fast and sensitive balancing measurement system allows you to guarantee the quality of your machining - especially reamers. After every tool change, and during the approach phase of the tool, SafePilote HSM will check for a chip between the tool holder seat and the spindle cone. Depending on the specifics of the application, SafePilote HSM can detect chips down to 0.01mm.





Minimize Damage resulting from Collisions

is a 3-axis accelerometer sensor and processor specially designed and built in Digital Way's lab to provide you with the most effective means for protecting your machines against damage resulting from a crash or a



Missing Tool Detection

The MTD version of the SafePilote allows missing tool detection by analyzing the amount of energy consumed during machining. It's a good alternative to "tool check" systems which are often time consuming.



Ensure Production Quality



SafePilote Machine Condition Monitoring





- Balancing check

- Shaft Geometry
- Misalignment

Mounted on your machine's spindle, this powerful system will allow you to record and store vibration data associated with the current machine condition or process quality.



Detects a chip in the tool holder

Machining centers that use automatic tool changers provide many production benefits, but they are susceptible to contamination by metal chips and swarf. Air blasts are no guarantee that debris will not become trapped between the tool holder seat (or taper) and the spindle cone. This debris has a direct impact on part quality.



- Ball screws and slides Analysis

SafePilote can be installed on any kind of machines: Machining centers, turning centers, grinding machines. It will provide you with valuable indications about the condition of your moving elements.



During the tool change cycle, if a metal chip remains between the tool holder seat and the spindle cone, the tool will be offcentered and the machining will be out of tolerance: When using a reamer, for sure the part will have to be scraped!





- Outer Ring

- Inner Ring
- Rolling elements
- Cage

Keep an eye on spindle bearing condition by controlling vibrations in the 3 different axes. Thanks to its high sensitivity, you'll also be able to detect any balancing issue with your high speed tools.



Mounted on your machine's spindle, the high-resolution sensor specially developed for this application can detect in less than 0.4 second the presence of a chip of a thickness down to 0.01 mm.





SafePilote Holder Seat Monitoring

