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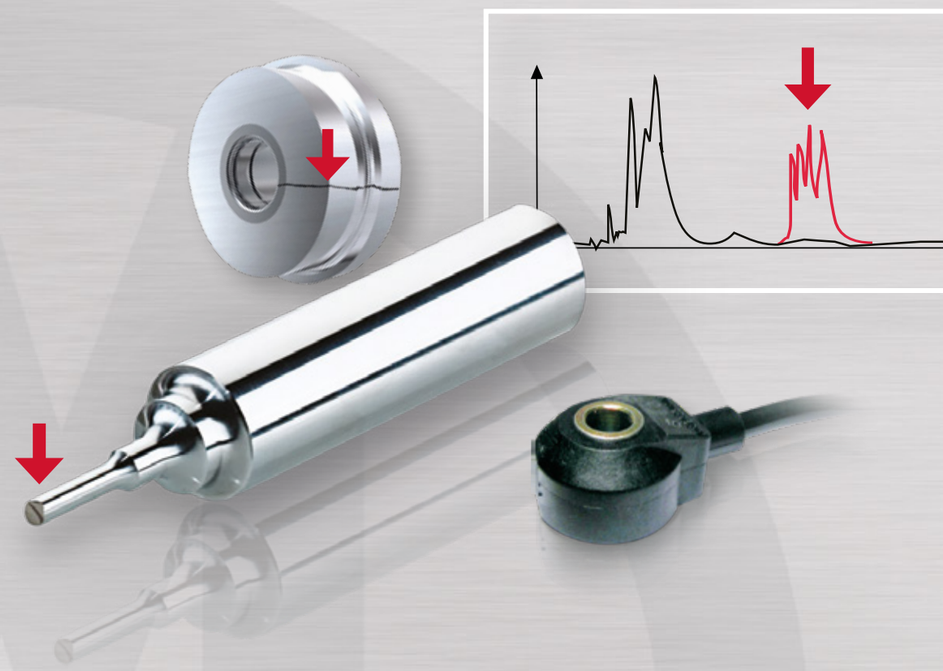
PROCESS MONITORING

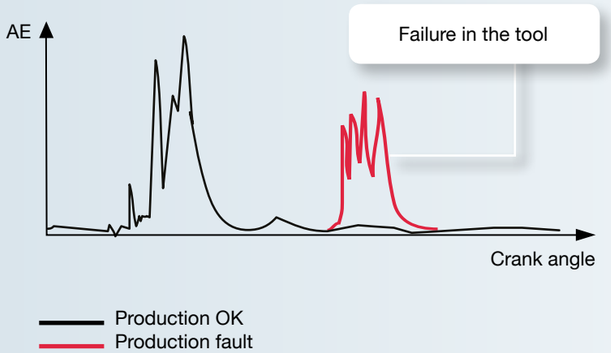
ACOUSTICEMISSION – CRACK DETECTION OF DIES AND BROKEN PUNCHES



ACOUSTICEMISSION – CRACK DETECTION OF DIES AND BROKEN PUNCHES

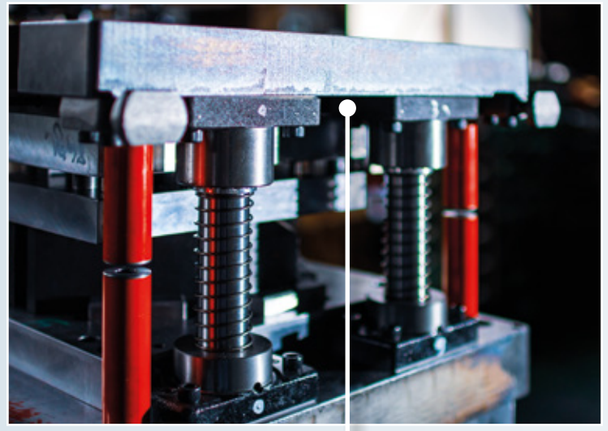
Your benefits

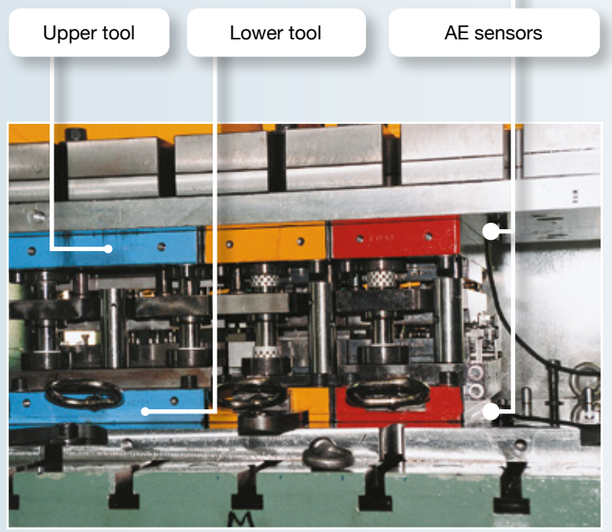
- **Early detection of cracks and punch breakages**
- **Force fracture detection even for small punches and tool components**
- **Avoidance of tool crashes**
- **Comprehensive quality control**
- **Reduction of consequential damages**
- **Improved quality and increased machine efficiency**
- **Combined monitoring of forming force, UltraEmission, distance measurement, feed monitoring and AcousticEmission possible with X-series**



Example: Incorrectly clamed tool

Many presses are already equipped with machine protection. You do not only want to protect your machine, you also want to detect breakages and cracks in small tool elements at an early stage. For this an exchangeable acoustic sensor at the upper and lower tool is sufficient (with common head and base plate).
AcousticEmission (AE) is an efficient, innovative monitoring method that offers an optimal supplement to existing machine protection.
AE recognises process faults where conventional monitoring methods do not react. This allows AE to protect both the machine and tools against subsequent damages.





AE sensors are mounted to the upper and/or lower tool

The solution for broken punches

AE detects punch breakage and protects against subsequent tool damage. The response time is faster than with conventional monitoring methods.
AE is an efficient monitoring method, an optimal supplement for machine protection.

The monitoring of your press is already possible with two sensors. The installation of the AE sensors is simple. The AE sensor is fixed to the tool with only one screw. Retrofitting is easy to implement.

For tools larger than 2,500 x 1,500 mm, or for modular tool constructions and transfer presses, several AE sensors are maybe necessary.

AE on upper tool identifies...

- broken punches
- unfavourable stroke rate, which lead to strong machine vibrations
- dynamic process variations
- tired or broken spring elements

AE on lower tool identifies...

- die cracks
- tired or broken spring elements
- pulled slugs