

Monitoring Drills ($\varnothing \geq 2 \text{ mm}$)

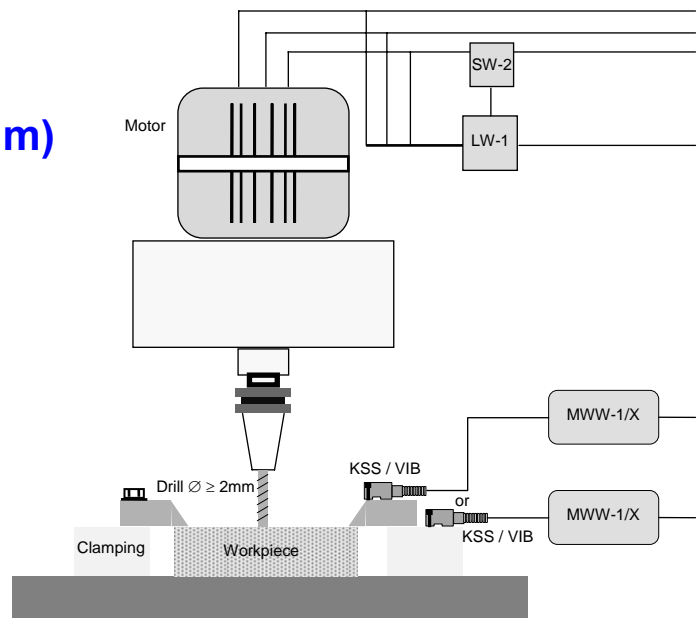
(1 tool per motor)

Target - setting

- Detection of tool breakage
- Improvement of workpiece quality
- Increasing of drill life
- Reduction of tool cost

Typical use

- Machine centers
- Transfer lines
- Special purpose machines
- Milling machines



Easy monitoring

- Drilling breakage (HSS) by active power

Advanced monitoring

- Wear detection (HSS) by active power (trend analyzing)
- Chipped tools detection (big drilling tools with plates) by KSS / VIB

Difficult monitoring

Signal

