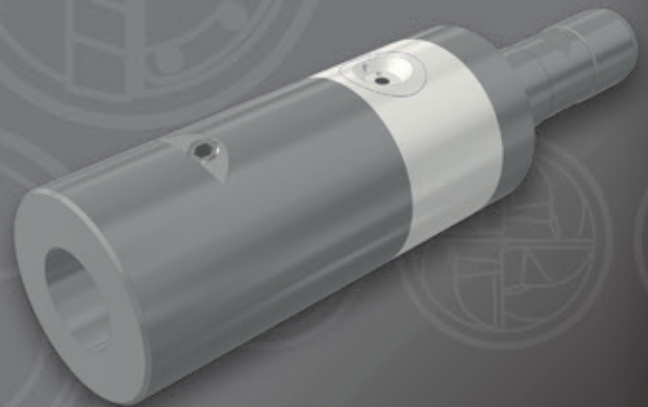


Sensor-equipped tool holder

botek



For monitoring and optimising drilling processes

The sensor-equipped tool holder enhances deep-hole drilling processes with intelligent process monitoring and supplements the operator's perception with additional information. The integrated sensor system records process signals as close to the tool as possible and provides measurement data in real time.

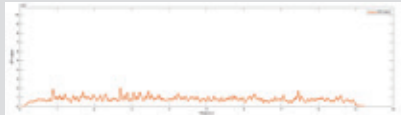
Whilst the drilling process has previously been assessed mainly on the basis of noise, vibrations, chip removal, etc., the sensor technology makes it possible to identify process conditions that would otherwise go undetected or be detected too late. This enables a better understanding of the drilling process and allows well-informed decisions to be made regarding process monitoring and optimisation.

Examples of applications / benefits

- Continuous, real-time process monitoring
- Early detection of tool wear and process instabilities
- Support during the commissioning of new processes
- Rapid identification of deviations or faults
- Detection of chip jams, cross-drilling, etc.

Type 120 HP Ø10.0 x 400 mm

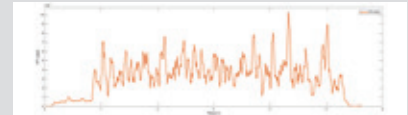
Material: EN-GJS-400-15
vc: 100 m/min



f: 0.5 mm/rev: Smooth machining process



f: 0.7 mm/rev: Optimised process



f: 0.9 mm/rev: Critical process

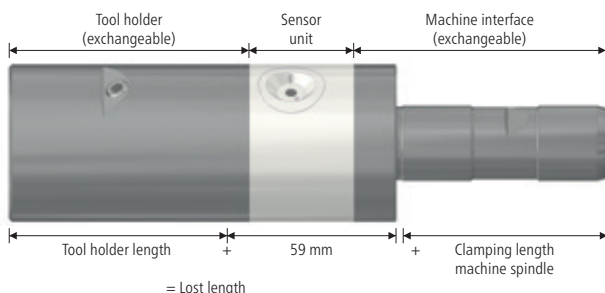
Design of the sensor-equipped tool holder

The tool holder consists of a sensor-equipped central section and, in each case, a virtually freely selectable machine interface and tool holder. Many combinations are possible. Shown below is a version for deep-hole drilling machines. Both the machine-side and tool-side feature a ZH25-00 interface or holder.

The modular design allows for flexible adaptation to different machine and tool systems.

Overhang: 59 mm + length of the tool holder

The tool holder is battery-powered and has a running time of approximately 9–10 hours in continuous operation before it needs recharging.



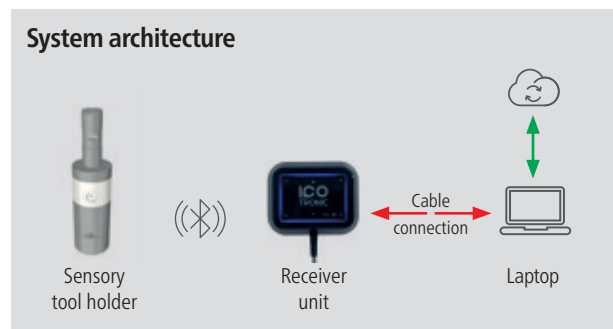
System Architecture

The sensor holder, together with a mobile receiver unit, forms a flexible, machine-independent system for process monitoring.

The process data recorded in the tool holder is transmitted via Bluetooth to a receiver unit that is magnetically attached near the machine. This is connected via a wired connection to a laptop on which the data is processed and stored. From there, the data files can be easily transferred to the cloud.

The system is fully portable and not tied to any specific machine. Only an external power supply is required. From there, the data can be easily transferred to the cloud. The system is fully portable and is not tied to any specific machine. All that is required is an external power supply for the receiver unit.

System architecture



botek®

DEEP HOLE DRILLING SYSTEMS
SOLID CARBIDE TOOLS

botek Präzisionsbohrtechnik GmbH
Längenfeldstraße 4 · 72585 Riederich · Germany
P +49 7123 3808-0 · E-Mail Info@botek.de · www.botek.de

