It simply works!

BK
Mikro®
Tool and Process Monitoring

Tool and Process Monitoring.

A solution that simply works.

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In technology the simplest solution is often the best. The less complicated a solution is, the more likely it will succeed and this holds true for the tool and process monitoring of BK Mikro.

At first sight BK Mikro does not appear to be a high-tech product since the scanning is done by physically touching the object. But this is the very reason for its reliability, ease of maintenance and resistance against chips and coolant.

With a number of connection options such as Profibus, DeviceNet or Digital I/O and its compact design, BK Mikro proves to be a highly flexible solution suitable for tool monitoring as well as for object and free space monitoring applications.
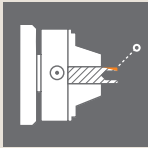
It simply works: BK Mikro

Application Solutions: In automated manufacturing there are enormous possible uses for the BK Mikro. Below you'll find just a few examples of typical monitoring functions.
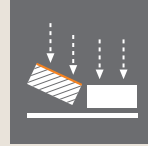
Position Recognition
- Detection of deviations
- Monitoring of tolerances
- Checking material thickness
- Radial or linear scanning

Tool Monitoring
- Stationary and rotating tools
- Inside tool magazine area or inside machining area
- Breakage detection
- Radial scanning of spiral / cutting edge

Measuring of Hidden Geometries
- Bores / cavities
- Testing functions in narrow process areas
- Application-specific wand types
- Linear scanning

Object Inspection
- Inspection of feeding / ejection / free space
- Correct tool storage in magazine
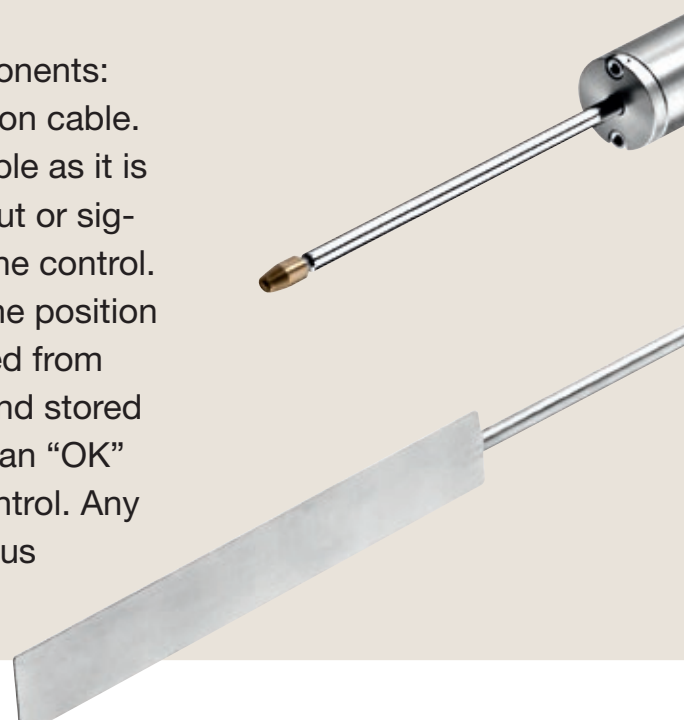- Inspection of length
- Radial or linear scanning

Testing of Outline / Profile
- Checking of shapes for defects
- Detection of irregularities
- Monitoring of material feeding
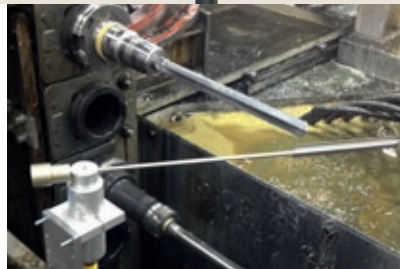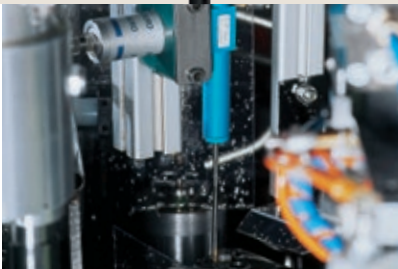- Radial or linear scanning

BK Mikro is a solution that always works.

The BK Mikro system consists of three components: the scanner, the control unit and the connection cable. The operating principle of BK Mikro is as simple as it is intelligent. The controller is given a 24vdc input or signal through a fieldbus master from the machine control. The scanner then moves the wand towards the position of the object it is checking. The result provided from the scanner is compared to the parameters and stored values defined in the control unit, resulting in an "OK" or "KO" signal transmitted to the machine control. Any deviation detected can trigger an instantaneous machine stop.

Control units are available in 3 variations in order to fit most applications. "Basic" is used for simple, cost-effective solutions, with just one monitoring function. "Premium" can monitor a large number of objects or positions such as in the tool changer of a machine. "Premium with Fieldbus" provides the same function as Premium but all of the programming is completed directly through the CNC-software using a fieldbus such as Profibus or DeviceNet. The I/O extension module allows for further configuration options when combined with the controllers.

TK9LIN50

Linear and precise: With its high repeatability the TK9LIN is ideally suited for uses where precise results are required.

- Measuring range 50 mm
- Repeatability up to 0.05 mm
- Position or hole detection
- Part ID or assembly applications

TK91A

Powerful and highly precise: The TK91A is designed for the scanning of long tools and the detection of the smallest deviations.

- Accuracy of ±0.05°
- For different tool lengths
- Measuring range up to 700 mm
- Ideal for monitoring in tool magazine

TK94A / TK94RL

Robust and high-speed: The TK94 units are ideal for applications which require very durable scanners with extremely short scanning cycles.

- 180° of travel in only 0.25 seconds
- Tool diameters as small as 0.5 mm
- TK94A for scanning in one direction
- TK94RL for bidirectional scanning

Unequaled reliability: The scanner has an extremely rugged design and is absolutely impermeable to aggressive coolants and chips (IP67 Rated). The smooth body which allows for easy mounting houses a servo motor providing accurate measurements and increased product life. BK Mikro offers a large selection of scanners and wands for a wide range of applications.

TK8A

Compact and precise: The TK8 is well suited for precise scanning results with relatively short scanning cycles adding little or no cycle time to the machine.

- Accuracy of ±0.15°
- For different tool lengths
- Measuring range up to 380 mm
- Ideal for monitoring in tool magazine

TK7A / TK7RL

Compact and fast: The TK7 units are perfect for small areas such as Swiss machines where space is at a premium and tool diameters are very small.

- 180° of travel in 0.4 seconds
- Tool diameters as small as 0.1 mm
- TK7A for scanning in one direction
- TK7RL for bidirectional scanning

TK96A / TK96RL

Small and dynamic: The TK96 is the ideal monitoring solution for use in the smallest/narrowest process zones where a very durable model is required.
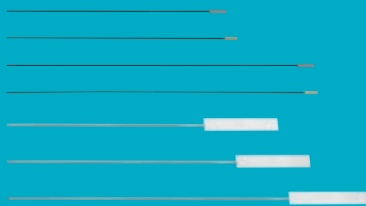
- Stainless steel body
- Tool diameters up to 0.1 mm
- TK96A for scanning in one direction
- TK96RL for bidirectional scanning

It simply works: BK Mikro

Various accessory options are available for BK Mikro which expand monitoring options and can fulfill all requirements.

Air barrier adapters for use with scanners under extremely adverse monitoring conditions.
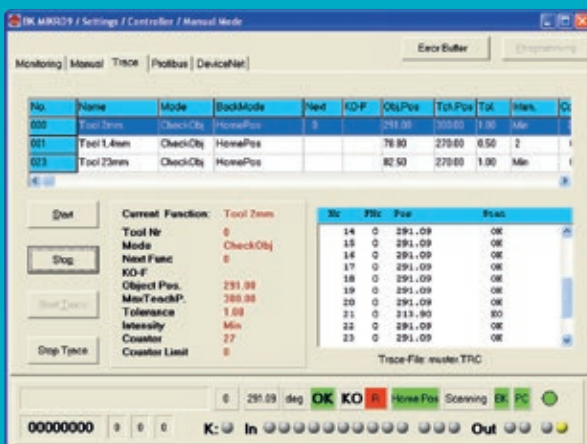
Wands in various lengths and types, with different tips available depending on the application.

Aluminum mounting brackets with self-locking screws allow for easy mounting of the scanner.

Configuration software allows for easy initial setup and troubleshooting of systems.

The easy to use Windows based software was developed specifically for the BK Mikro controllers and is used for the initial controller setup and to make any subsequent parameter adjustments. It also displays the current scanning results, any error messages, views the 32 previously stored faults, and saves/restores settings from a file. The connection to the PC is done using a standard mini-B 5 pin USB cable.

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Do you want to learn more about BK Mikro?

The easiest way:
www.techna-tool.com

By phone:
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