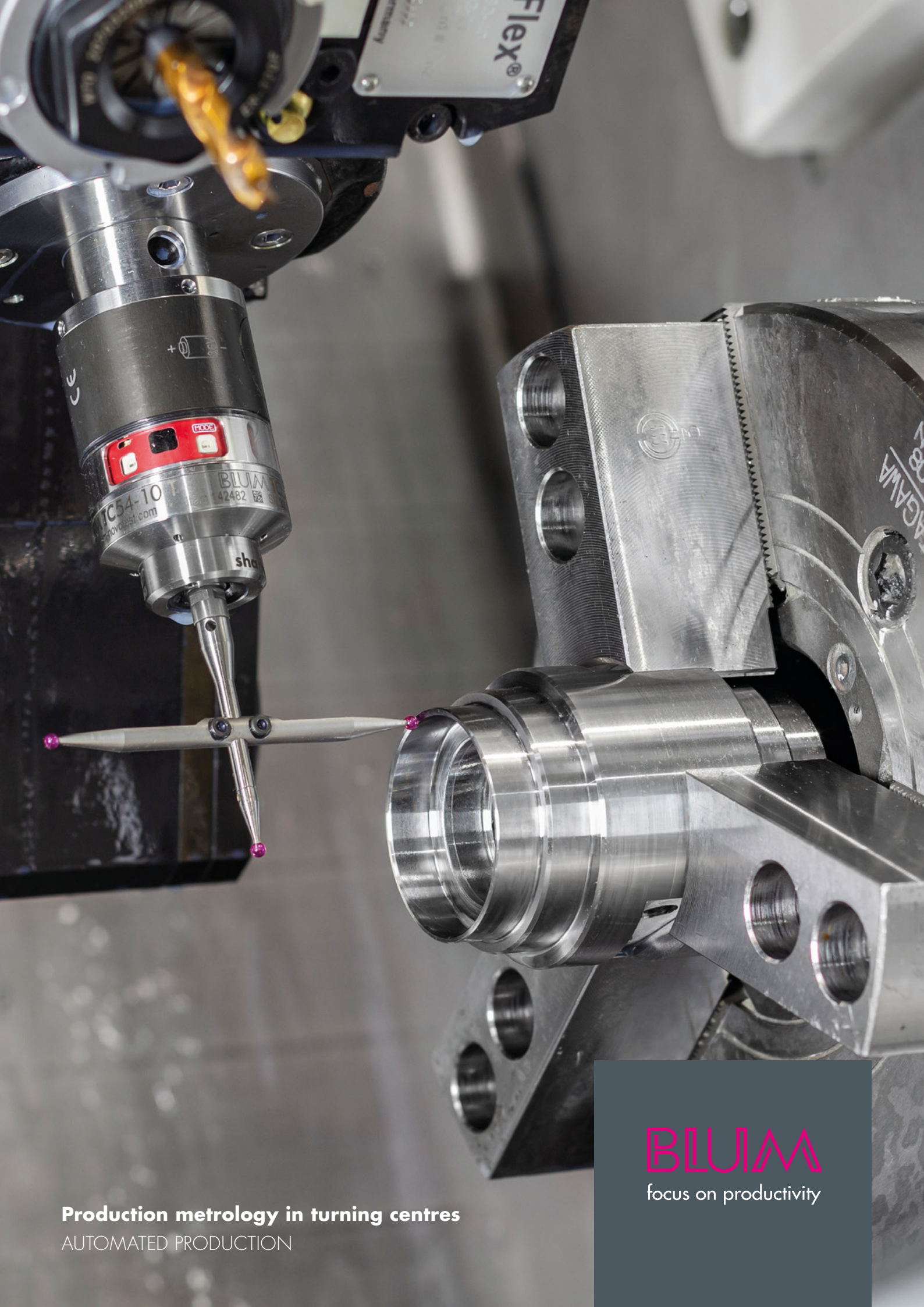




Production metrology in turning centres
AUTOMATED PRODUCTION

BLUM
focus on productivity

Automated production in CNC turning centres

Production measuring technology from BLUM helps you automate your turning processes and increase process reliability. We offer highly efficient solutions for both workpiece and tool measurement.

01 PRODUCTION METROLOGY IN TURNING CENTRES

Measuring technology from BLUM helps customers from many industrial sectors to increase their productivity and the quality of the produced parts. The systems must be able to withstand the highest loads, especially in lathes, since they stay in the work area during machining, meaning they are permanently exposed to chips, cooling lubricants and vibrations. A whole range of BLUM measuring systems has been specially developed for these harsh environmental conditions and help customers worldwide achieve their productivity goals.



Advantages of BLUM measuring systems

- Perfect solutions available for a wide range of applications
- Maximum measuring accuracy
- Extreme traversing and probing speeds possible
- Wear-free, optoelectronic measuring mechanism
- Reliable measurements, even when exposed to coolant
- Probes for pulling and torsional measurements available with projecting stylus
- Ideally suited for highly productive production
- Simple retrofitting

T-series

Many BLUM probes are also available as T-versions. These are particularly rugged designs that have been specially developed for use in turrets on lathes.

- Rugged designs especially for lathes or extreme loads in milling machines (e.g. tool changers)
- Measurements possible under high pressure and viscous oil
- Higher measuring force for use in tool turrets (vibrations, interrupted cut...)
- Acceleration up to 200 m/s^2 (standard 50 m/s^2)
- Vibration damping in battery compartments

02 WORKPIECE MEASUREMENT IN TURNING CENTRES

BLUM measuring systems for workpiece measurement are an integral part of many turning centres. They enable highly efficient, automated machining and help ensure a stable machining process.

- Automatic detection of workpiece zero points
- Fast workpiece measurement before and after the process
- Process-integrated monitoring of tolerance and intervention limits (UTL, UEL, LTL, LEL)*
- Programmable process strategy for good, correction and scrap parts*
- Automatic, percentage-controlled tool correction based on workpiece measurement*
- Compensation of thermal influences
- Reduction of scrap
- Increase in part accuracy

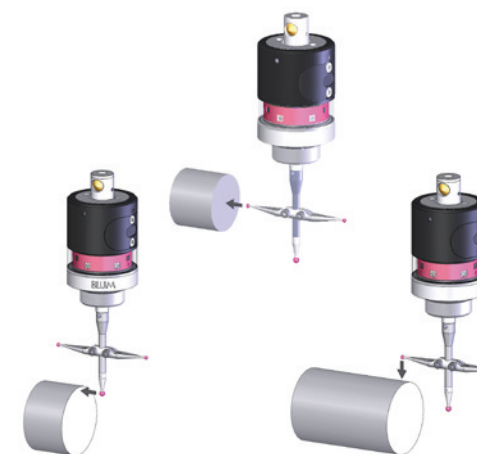
* Extended process customisation required



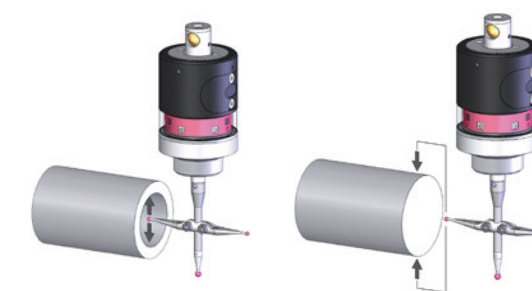
03 SOFTWARE QUICKSTART T ACHIEVABLE MEASURING TASKS

With Quickstart T, BLUM has a software solution for the most important measuring tasks, especially for turning applications.

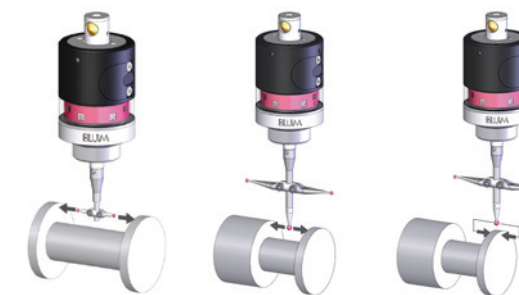
- Tolerance control
- Tool correction (on the same channel)
- Use of styli with up to five probe elements
- Measurement with stylus cross on main and counter spindle with one probe



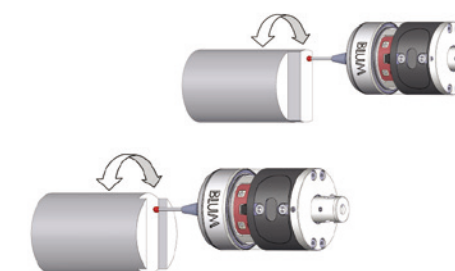
1-point measurement
Workpiece referencing



2-point measurement
Inner and outer diameter



2-point measurement
Internal and external width



C-axis measurement
Inside and outside width

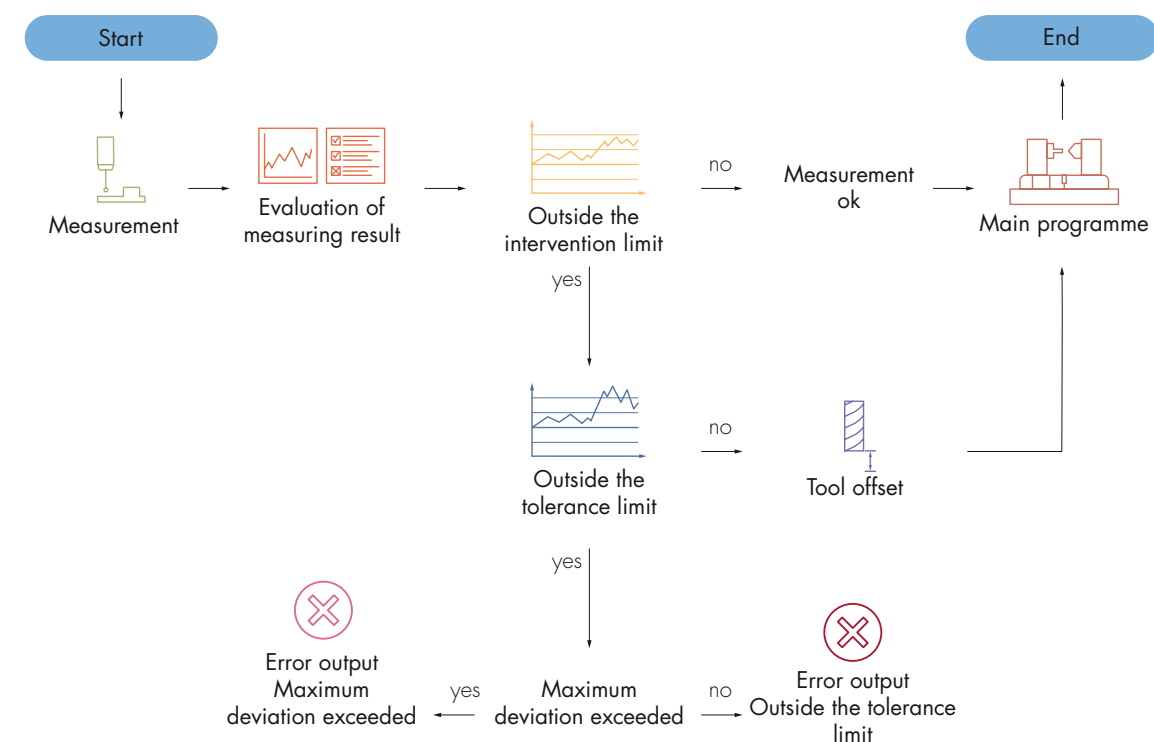
Extended process customisation

Quickstart T features a comprehensive basis for the most important applications. If customer-specific requirements go beyond the functional scope of the software, BLUM provides support with the option of extended process customisation.

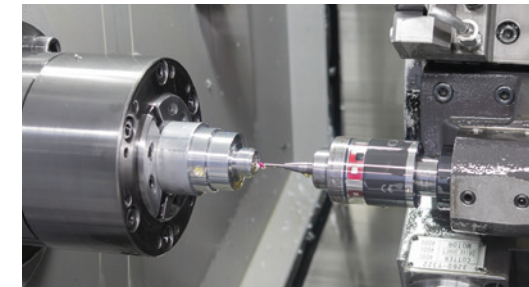
- Fully automated workpiece measurement and correction
- Measuring interval after XX components
- Measurement results in log file
- Feature-specific tolerance & intervention limits
- Percentage tool correction (across channels)
- Absolute result correction to master part
- Sister tool correction
- Definition of measurement routines
- Creation of a closed process for series production

Please get in touch with your local BLUM representative.

Example



Tool measurement application examples



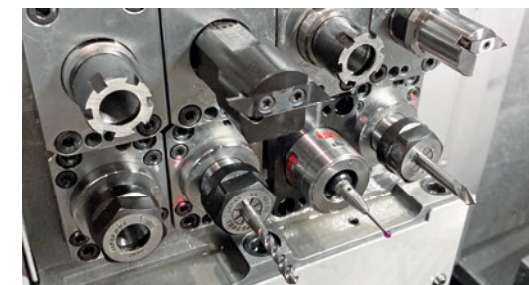
Touch probe TC54-10 / TC64-10

- Infrared or radio transmission
- Use in turret
- Straight stylus
- Measurement on main or counter spindle



Touch probe TC54-10 / TC64-10

- Infrared or radio transmission
- Use in turret
- Protruding stylus Z+-
- Measurement on main and counter spindle



Touch probe TC55

- Infrared transmission
- Use in tool carrier (lathes)
- Straight stylus
- Measurement on counter spindle



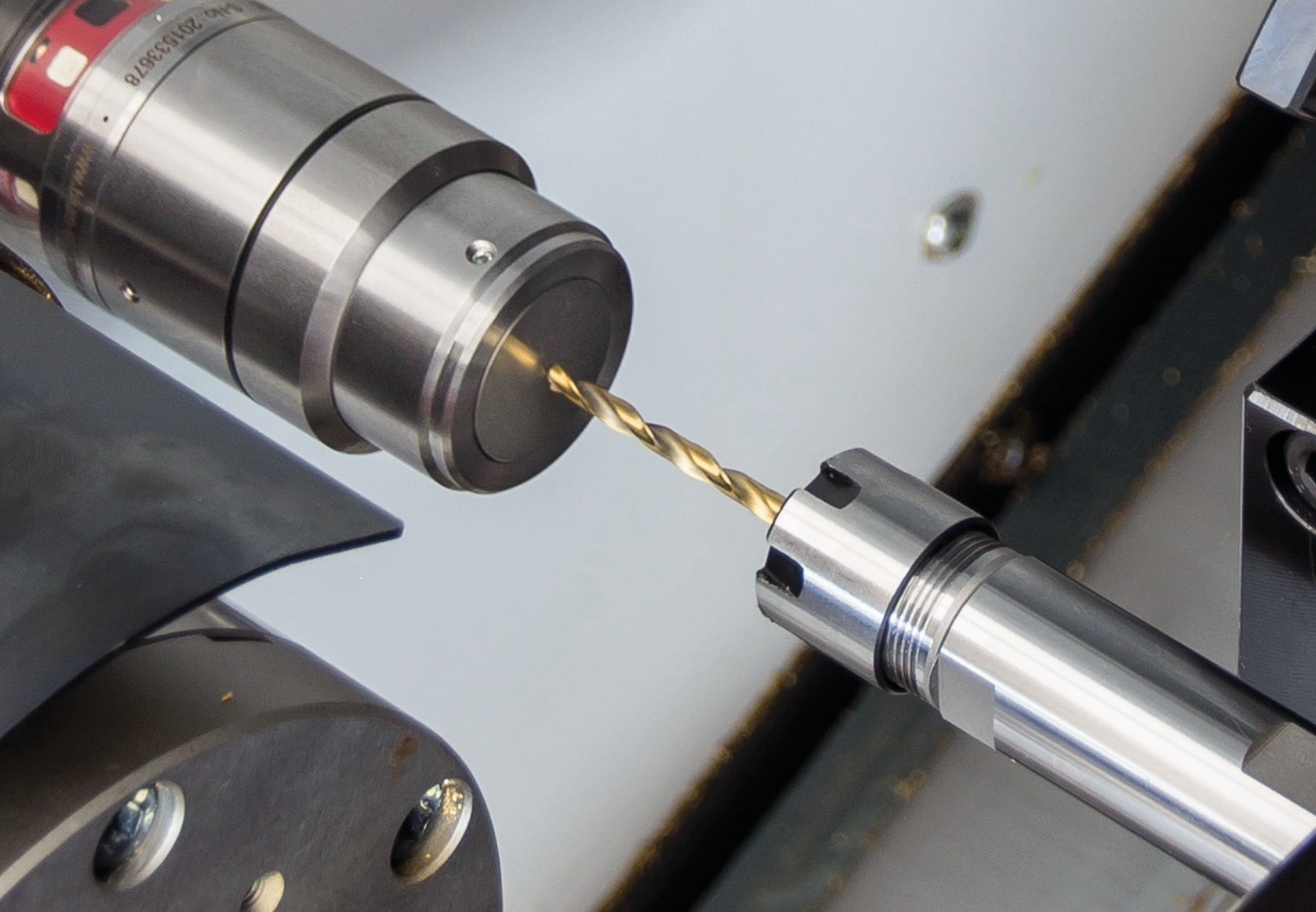
Touch probe TC76

- Hard-wired
- Use in tool carrier (lathes)
- Straight stylus



Tool setting probe Z-MT

- Hard-wired
- Use in tool carrier (lathes)
- Straight stylus



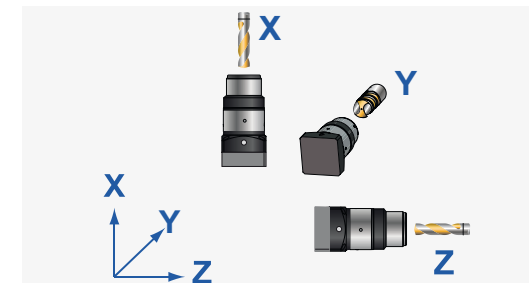
04 TOOL MEASUREMENT IN TURNING CENTRES

For turning applications, BLUM offers a wide variety of system configurations that meet the requirements of different machine concepts, thus ensuring fast and reliable tool monitoring. Specially designed for the harsh conditions in these machines, tool measurement systems from BLUM are an effective solution for improving the accuracy of your workpieces and the productivity of your manufacturing lines.

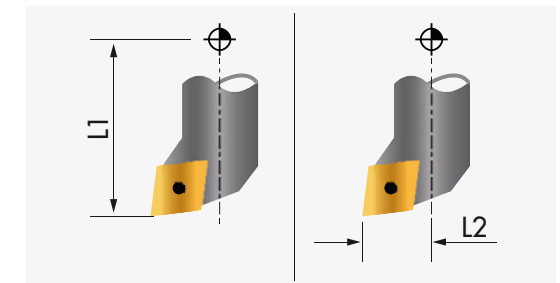
- High-precision tool length measurement
- Tool wear measurement and compensation
- Automatic breakage detection of driven tools
- No damage due to undetected tool breakage
- No typing errors and corresponding subsequent damage
- Reliable, tactile measurements even when exposed to coolants

BLUM has solutions for measuring and monitoring different types of tools.

Measurement on tool setting probe

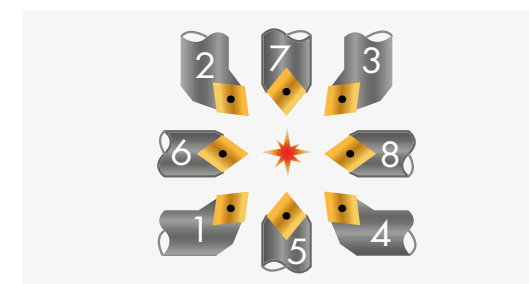


Measuring tasks for driven tools: Tool breakage detection, tool length and wear

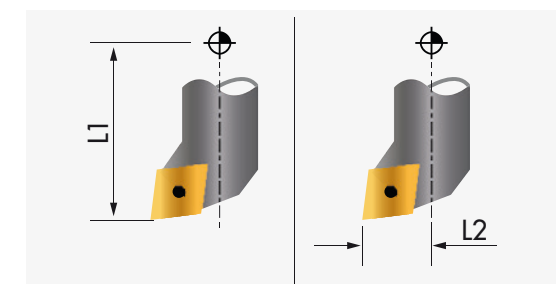


Measuring tasks for turning tools: L1 or L2 and wear

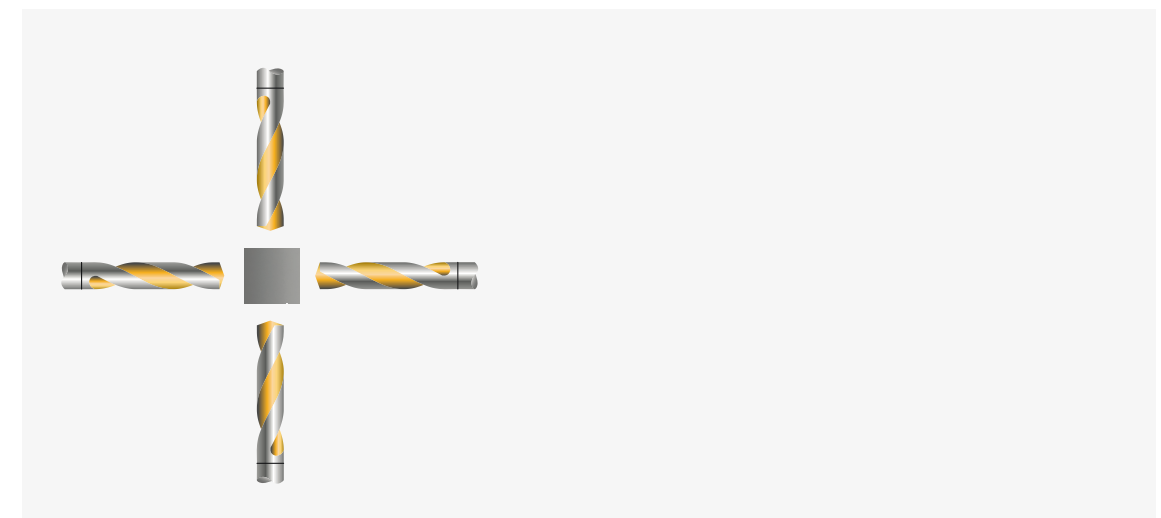
Measurement on probe with "cube" stylus



Cutting edge positions

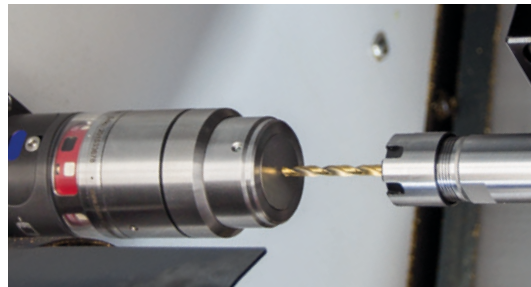


Measuring tasks for turning tools: L1, L2 and wear



Measuring tasks for driven tools: Tool breakage detection, tool length and wear in 5 probing directions

Tool measurement application examples



Tool setting probe Z-Nano IR/RC

- Hard-wired, infrared or radio transmission
- Measurement of driven tools: Breakage detection, length and wear



Tool setting probe Z-Pico

- Hard-wired
- Measurement of turning tools: L1 or L2 and wear



Probe TC76 with protective sleeve

- Hard-wired
- Measuring tasks for driven tools: Breakage detection, length and wear in 5 probing directions



Tool setting probe Z-Nano IR/RC

- Infrared or radio transmission
- Use in turret
- Measurement of driven tools: Breakage detection, length and wear



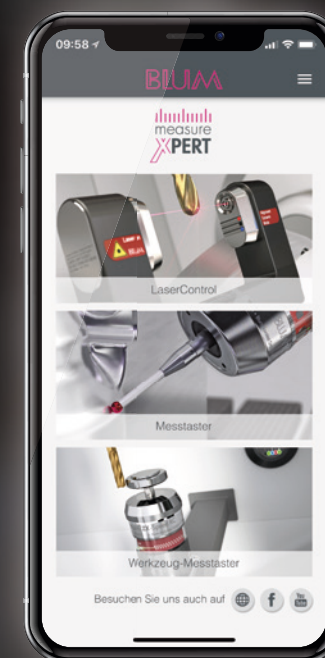
Probe TC64-10 with cube

- Radio transmission
- Measuring tasks for turning tools: L1, L2 and wear
- Measuring tasks for driven tools: Breakage detection, length and wear in 5 probing directions

Become a measureXpert!

measureXpert makes using your BLUM measuring system even simpler. This new app guides you step by step from the measuring task to the right cycle call for your CNC control. Download now!

The new
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