Measuring on Machine Tools
m&h Touch Probe Systems
Since its inception in 1991, m&h Inprocess Messtechnik GmbH has become a technological leader in the on-machine probing and tool checking markets.

m&h designs and manufactures precision made, high-quality, dependable probe systems for use in machine tools. Technical innovation focused on our customer’s manufacturing processes lies at the heart of our development process.

User-friendly software solutions, individual consultation for special projects and system installations complete the m&h product palette. The Hexagon Metrology worldwide sales and service network offers qualified advice and local service, quickly and effectively.

As a part of Hexagon Metrology, m&h stands for innovative metrology for Machine Tools.
**Trouble-free, easy operation in the workshop**
- Simplest use and maintenance for the operator
- Quick battery replacement without tools
- Easy stylus changes

**Highest precision and process reliability**
- Precise measurement from the first point
- No interruptions from false triggering
- Wear-free measuring mechanics
- Dependable activation methods

**Durable Construction**
- Stainless steel housing
- Sealed from contamination to the IP68 standard
- Rugged protection of the measuring mechanics

**Reliable Signal Transmission**
- Measurement and temperature data transmission to the control
- HDR-Technology (High Data Rate) infrared transmission
- Patented SCS-Technology (Self-Channel-Select) radio transmission

**Compatibility**
- Compatible with all earlier m&h probe systems
- Works with all measuring software on the machine tool
- m&h infrared probes with Chameleon function are compatible with nearly all other IR probes on the market

**Application support**
- Customer-oriented standard solutions
- Powerful, user-friendly software
- Competent support for special projects

1. **Radio touch probe 20.41-MULTI**
   Modular probe for use on large sized machine tools. Adjustable trigger force supports complex measurement tasks, including measurements deep inside of workpieces.

2. **Radio touch probe 38.10-MINI**
   Compact, modular probe with adjustable trigger force used on machine tools with limited tool diameters and limited Z-Axis height. Ideal for complex measurement tasks.

3. **Infrared touch probe 25.41-HDR**
   Modular probe used on vertical and horizontal machining centers. Adjustable trigger force supports complex measurement tasks, including measurements deep inside of workpieces. Includes Chameleon function providing compatibility with nearly all other IR probe systems on the market.

4. **Infrared touch probe 40.00-TX/RX**
   Compact probe with bi-directional transmission used on HSC machines with small shanks and small tool changers as well as on lathes.

5. **Production Probe 41.00-PP**
   A very compact probe which is completely compatible with existing systems on the market, used on tool grinders, cylindrical grinders, rotary transfer machines, and for special measurement tasks.
Tool measurement

- Determines exact tool dimensions
- Tool breakage detection
- Highest accuracy
- Continuous production quality

**Tool setter 35.10-TS**
Variable-height tool setter with adjustable probing force used to determine tool geometry in milling machines and machining centers. Both dynamic as well as static measurements are possible.

**Pick Up Tool setter 35.40-TS**
Patented, innovative tool setter with infrared transmission used in machining centers and 5-axis machines. Mounting/dismounting is possible both manually and fully automatically – without interfering in the work area of the machine.

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**5 THERMO-LOCK® – Touch probe**
THERMO-LOCK® probes enable reliable, accurate measurement regardless of large temperature differentials by preventing heat transfer from the spindle to the probe. m&h exclusive. (Patent pending)

**7 Temperature touch probe 25.44-HDR**
Part temperature probe enables fully automatic, CNC-controlled temperature measurement at user defined locations for adjustment and control of machining parameters in the production process. A m&h exclusive. (Patented)
3D Form Inspect

Advanced manufacturing facilities are placing more and more importance on measurement and quality control directly on the machine tool. This software enables quick, simple on-machine measurement and reporting of critical geometries and shapes on all sides of the part using all machine axes, saving time, providing process reliability, and enhancing quality.

Save costs – increase competitiveness
- No sending parts to the CMM for intermediate checks
- On-machine reworking without tearing down the set up
- No downtime waiting for measurement results
- Documented measurement results
- Define the optimum work offset corresponding to the part surface

Easy to Use
- Intuitive user interface
- Familiar measurement functions, designed for the machine operator
- Probe collision detection provides safety and confidence

Universally applicable
- Extensive import filters for CAD surface data
- Available for almost all CNC controls

Highest precision
- m&h patented calibration technology ensures highest accuracy
- On-time measurement of a point cloud on a calibration artifact
- Rapid real-time vector calibration for the demands of both speed and accuracy

Additional features
- 4th and 5th axis support
- Kinematic error correction of rotary and swivelling axes
- Best Fit
- Star probe support

Clear and simple reports in Excel, Word or HTML

On-screen graphical results

User-definable touch probe configuration
m&h Inprocess Messtechnik GmbH is the technological leader in on-machine gauging. Today many well respected companies around the world can be found using m&h probe systems and software. m&h is characterized by its strengths in: machine tool know-how, continuous technical innovation, focusing on customer manufacturing processes, and application engineering. Individualized, customer focused advice and development of special applications are part of our commitment to excellence. A worldwide sales and support network ensures m&h products are available wherever your business takes you.

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