TSCHORN®

Probes & Tools Technology


Tschorn 4.0

Made in Germany

## Tschorn 4.0: Automatic probing system for every application

With the Tschorn 4.0 probing systems, you can measure tools and/or workpieces quickly and easily on your machine.

**The investment is not worthwhile on your old machine?**
It is! - With the cost-effective TSCHORN 4.0 system, the investment is also worthwhile for you!

Video

**Example of use probing edges**

Benefit from numerous advantages:
- time saving
- repeatability +/- 3 µm
- The accuracy is independent from the user.
- The receiver can flexibly be placed outside.
- The user has a good overview of the status LEDs at all times.
- Zero point probing and tool probing, even in a wet environment.
- tactile functionality - reacts to touch
- exchangeable styli
- Measurements are possible in the machining process with corrections
- Tool correction during machining
- Tool breakage control

### Probing system WP200 & TP125 with wireless connection:

**WP200**


**TP125**


The receiver can flexibly be placed outside.

**RC100**

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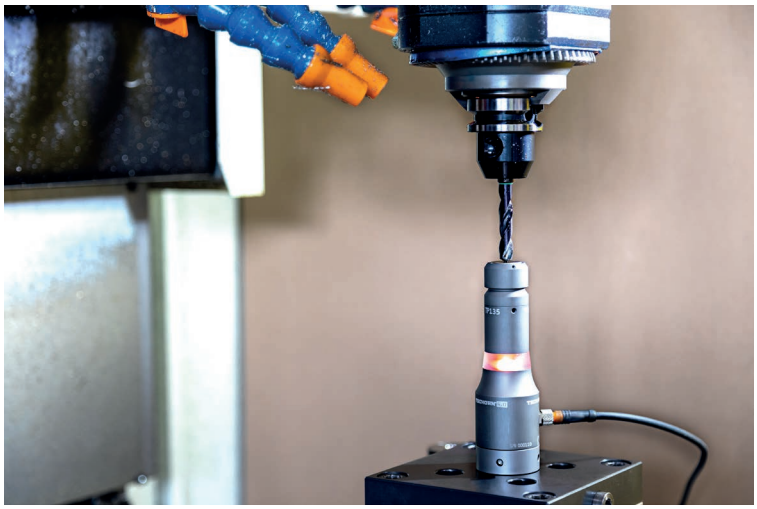
## Functionality

The workpiece probe as well as the tool probe detect any movement of the probing head or deflecting of the probing ball.

At the moment of deflection, a probing signal is sent to the receiver.
The receiver is connected to the machine control and forwards the probing signal for further processing by the measuring macros (measuring cycles) integrated in the machine control.



An alternative to the TP125 is the **wired TP135** for tool measurement:



## Software: Smart-Macros from Tschorn

Smart-Macros from Tschorn are available free of charge for Siemens, Fanuc and Mitsubishi.

Tschorn Smart-Macros have been especially developed and synchronised for the TSCHORN 4.0 probing systems. Original Tschorn Smart-Macros enable best probing and repeatability precision.

**Spindle orientation:** Generally, probing is possible on all machines, whether with or without spindle orientation. Highest accuracy can be achieved with spindle orientation. Errors in the machine, the run-out or the probe are compensated during calibration. Without spindle orientation, this compensation is limited.

**3 way probing:**
In order to probe as quickly and precisely as possible, the probing process is divided into 3 consecutive probings:
1. The first probing is made with fast feed and saves movement time.
2. This is followed by a second probing with medium feed.
3. Finally, the third probing follows with a slow measuring feed for maximum precision.

**Manual**
**Fanuc macros tool probing**

SCAN MICH

**Manual**
**Fanuc macros workpiece probing**

SCAN MICH

**also for Siemens and Mitsubishi available**

**Installation questions?**
Simply tell us about your machine and machine control and we will tell you immediately how quickly the installation can be carried out on your machine! You can also find more information about the installation in the video:

Video

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## Calibration aids

Please calibrate the probes before first use. We recommend repeating the calibration process regularly, as this compensates for the calibration deviations that arise in the interaction between the measuring system and the machine control.

For easy calibration, our calibration aids KH100+ and KH100 are available as accessory.


New
Calibration aid KH100+

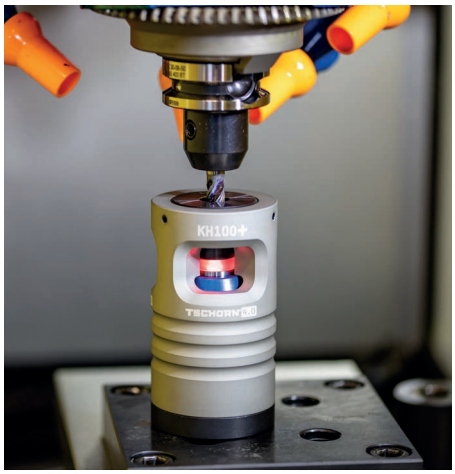

Simple
calubration aid KH100

**Usable for all measuring probes on tool machines**

**NEW**

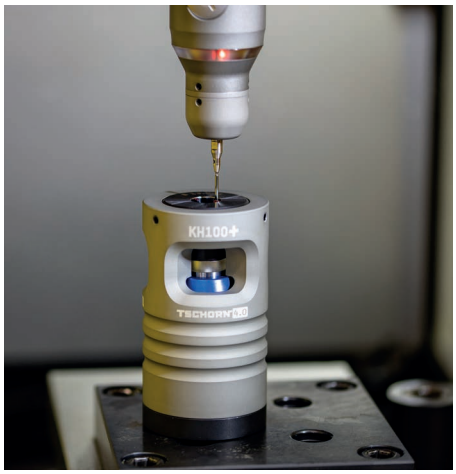
## New: Calibration aid KH100+

The KH100+ calibration aid significantly simplifies length calibration. You can easily and simply determine the zero point for calibration by touching the integrated sensor surface with a milling tool. Upon contact, the LED on the calibration aid will light up red.




**Determining the zero point**


**Calibrating length**




**Calibrating the radius**

# Dimensions

## TP125


## TP135

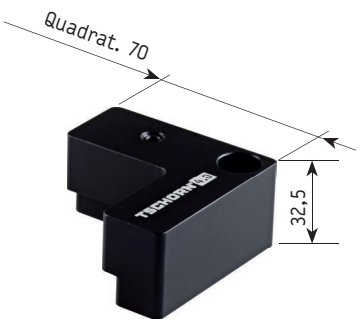

## WP200


## RC100


## KH100+


## KH100


## PW070

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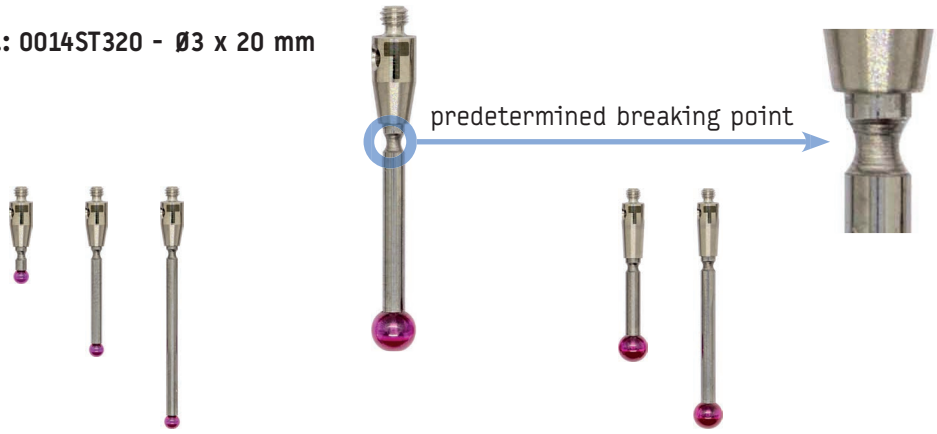
We currently have styli with diameters of 2 mm, 3 mm and 4 mm available. The probe is designed for Ø3x20 mm as standard.

**Please note:**
WP200 is designed for the standard stylus Ø3x20mm. With this, you achieve the highest accuracy. When using other sizes, the tolerance/accuracy may change.

**Art.no.: 0014ST320 - Ø3 x 20 mm**




**Art.no.: 0014ST210 - Ø2 x 10 mm**
**Art.no.: 0014ST220 - Ø2 x 20 mm**
**Art.no.: 0014ST230 - Ø2 x 30 mm**

**Art.no.: 0014ST420 - Ø4 x 20 mm**
**Art.no.: 0014ST430 - Ø4 x 30 mm**

## Order data:

| Article no. | Description |
|---|---|
| 0014WP200 | Probing system workpiece probe WP200 (incl. receiver RC100) |
| 0014TP125 | Probing system tool probe TP125 (incl. receiver RC100) |
| 0014WTP02 | Complete system (workpiece/tool probe WP200/TP125) (incl. RC100) |
| 0014TP135 | Tool probe TP135 (cable connection) |
| 0014ST210 | Stylus Ø2x10 (M2) |
| 0014ST220 | Stylus Ø2x20 (M2) |
| 0014ST230 | Stylus Ø2x30 (M2) |
| 0014ST320 | Stylus Ø3x20 (M2) |
| 0014ST420 | Stylus Ø4x20 (M2) |
| 0014ST430 | Stylus Ø4x30 (M2) |
| 0014KH102 | Calibration aid KH100+ Ø13 x 100 mm |
| 0014KH100 | Simple Calibration aid KH100 Ø13 x 100 mm |
| 0014PW070 | Pos. station PW070 |
| 0014PW125 | Pos. station PW070 with airblow for TP125 |