

# MiniProfiler-CMM

## Miniaturized Pickup

### Tactile Roughness Sensor for Coordinate Measuring Machines

**Roughness + Waviness**  
100 µm - 2 mm

**Adaptable**  
Usable on various workpiece shapes

**Versatile**  
Wide variety of measurement tasks

**Rotation Axis**  
**360°**

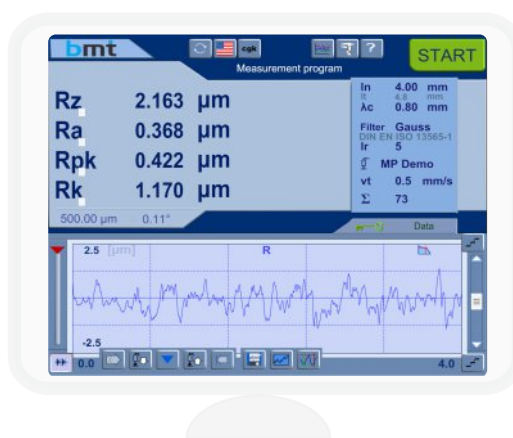
**Tilting Axis**  
**184°**

  
Stylus protection

  
Quick-change stylus  
60 sec.

  
Vibration resistant

  
Wireless connectivity



The MiniProfiler-CMM is a **self-contained tactile skidless measurement device with an articulated arm**. Rotation and pivot axis, forward feed and internal battery are enclosed in the small housing.

It belongs to the MiniProfiler product line of Breitmeier Messtechnik GmbH. Since 2001 the company has been designing, developing and building cutting-edge measurement devices and systems in Germany.

Our MiniProfiler product line is available for a **wide range of applications** which require measurement of technical surfaces, such as shafts, grooves on shafts and pistons, camshafts, vent sealing lips, cylinder bores and metalsheet.

### for Quality Assurance in Laboratories & on Production Lines



# MiniProfiler-CMM

## Technical Specification

ISO 3274	Measurement system with reference datum
Measurement principle	Skidless stylus; tactile
Reference datum	Precision flat
Measurement uncertainty [%]	0.5
Measurement range [ $\mu\text{m}$ ]	100; 500; 1000; 2000;*
Resolution [Bit]	20
Stylus tip radius [ $\mu\text{m}$ ]	2; 5; *
Stylus angle [°]	90; 60; *
Measuring distance [mm]	15; 50; 70; *
Travel speed [mm/s]	0.1 - 2
Stylus protection	Lift off actuator
Internal memory	Pickup and service data; measurement programs
Quick-change components	Stylus; cable

## Axes

Rotation axis [°]	$\geq 360$
Angular resolution [°]	0.018
Smallest configurable angular change [°]	0.02
Tilting axis [°]	184
Angular resolution [°]	0.01
Smallest configurable angular change [°]	0.01
Time for 360° rotation / 180° pivoting [s]	$\leq 7$

## Standards

ISO	ISO 4287; ISO 13565-2; *
Other standards	Daimler MBN 31007; SEP 1941; JIS B 0610; *
Profile parameters	Pt; Pc; Pv; Py; Pa; Pp; Pmr; *
Waviness parameters	Wt; Wc; Wv; Wy; Wa; Wp; Wsa(1-5); Wa0.8; Wca; *
Roughness parameters	Rt; Rv; Ry; Ra; Rmr; Rp; Rq; Rz; Rmax; dominant waviness; *
Core roughness parameters	Rk; Rpk; Rpk*; Rvk; Rvk*; Mr1; Mr2; R3z; R3max; *
Filters	Gauss; ISO 1562/16610-21; ISO 13565-1; VDA 2008; ISO 16610-31; *

## Software

Number of measurement programs	> 1000
Data interfaces	USB 2.0; USB 3.0; RS 232; QDAS; Excel; PDF (configurable); *

## Measurement Environment and Dimensions

Operating position	Arbitrary
Operating temperature [°C]	5 - 35
Dimensions [mm]	80 x 28 x 40 (without trunk); $\varnothing 70$ , 1335 (full system with jointed arm)
Weight [g]	500

\* Customizable

## MiniProfilers



MiniProfiler-C  
with camera



MiniProfiler MP15



MiniProfiler MP50/75



MiniProfiler MP15  
for CMM or robot