MEASURING TECHNOLOGY
FOR FIRST RATE PRODUCTION

HAFNER

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POLARIS

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The POLARIS measuring device is used for statistical process monitoring within the production of rotationally symmetrical components – as well as the process related and fast checking of the process data.
By partial, functional and high-precision scanning of workpiece contours features such as radii, center layers and shapes in sphare can be determined. In this case, features can be measured reproducible in the sub-micron range. The POLARIS is optimally suited for process closed use, delivering high precision measurement results and can be operated confidently by the operator.

POLARIS advantages

- Reduction of measurement laboratory utilization through SPC-measurement
- Fast results through process-oriented setup
- Shortening of downtimes after tool change
- Quick check of tools used (e.g. contour of the broaches)
- Flexible use due to fast changeover

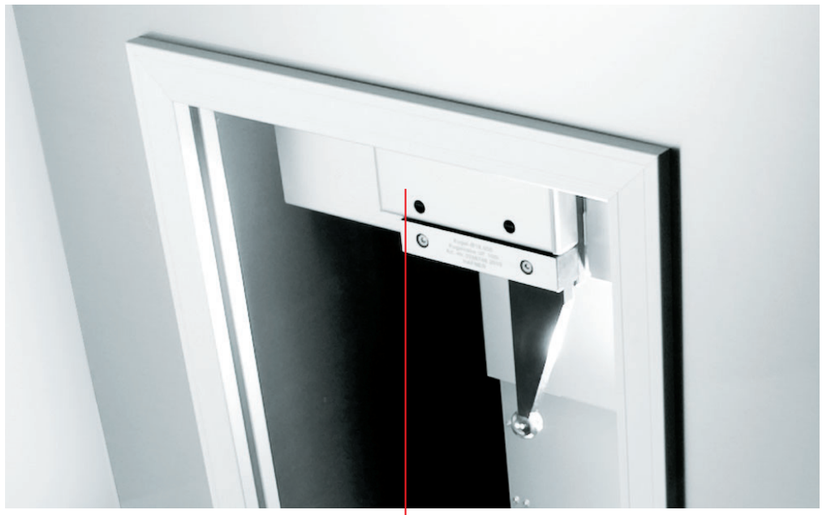
Technical specifications

Capability with 20 repeated measurements	< 0,2 µm
Measuring time	approx. 100 s
Dot density per channel	approx. 2,000 values/s
Changeover time	5 min
Dimensions WxHxD	1,130 x 1,960 x 890 mm

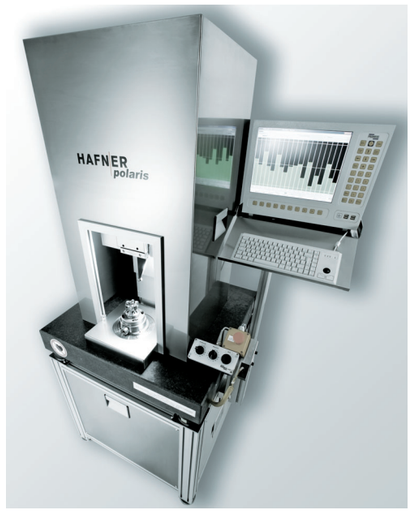
Main workpieces

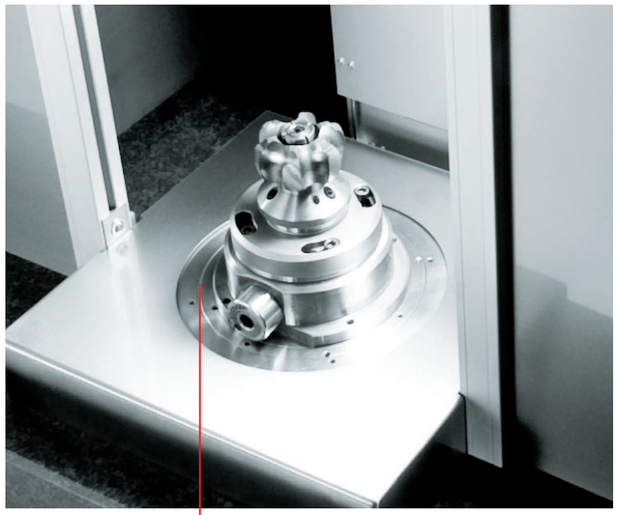
Applications are rotationally symmetrical workpieces:

- Joint parts such as ball hub - pitch angle, pitch angle, concentricity, ball heights, radius ball diameter
- Ball screw drive of a steering nut - cylindrical shape of the helix, min./max. radii, pitch deviation, axial positions, etc.
- ANSI B92.1 toothing: diametrically two-ball-measurement, pitch angle, shape (axial and radial)

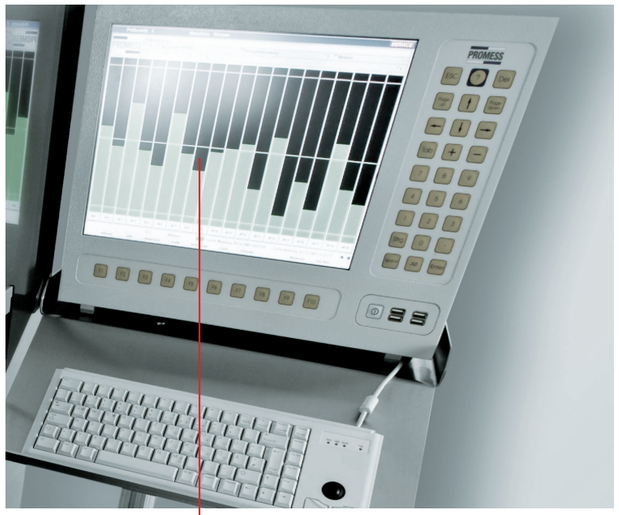


The linear axes carry the measuring task corresponding touch probe and enable a function-related measurement (for example, functional ball of a joint, self-centering at the contact angles to follow the track). The position detection of the individual axes results from high resolution, incremental length measuring systems.





High-precision, air-supported rotary table with torque drive and internal wobble error < 0.1 µm. Built on a massive vibration damper decoupled granite plate. A workpiece holder is mounted on the rotary table ensuring a stable component fixation during the entire measurement.



The measuring computer evaluates the measurement data and displays the results. Besides this it also controls all movements within the POLARIS. Influences due to changing workpiece and/or ambient temperatures will be equalled with temperature compensation.

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