



The presetter and measuring machine for crankshaft cutters

gemini 2

For crankshaft cutters and turn broaching tools

»gemini 2«

Fast, easy-to-operate and with microprecision: the ZOLLER »gemini 2« tool presetter and measuring machine measures 120 cutting edges in only 80 seconds – with unrivalled simplicity. As a result, you benefit from the highest quality of your workpieces, increased productivity and complete documentation.

»gemini 2« provides you with an ergonomic work place for extremely easy presetting, automatic measurement and inspection of crankshaft cutters and turn broaching tools. This helps you to extend the service life of the tools while at the same time benefiting from numerous advantages in your production: tool costs are lowered, wear and maintenance are reduced. Automated and operator-

independent measuring processes save personnel and set-up costs. Mounting of the tool cutting edges is facilitated by the ergonomic arrangement and the holding fixture of the crankshaft cutters. After complete and fully automated inspection, the results are documented in the measurement protocol and guarantee full documentation of each pre-setting task.

120 cutting edges
in only
80 seconds!

Fast and highly accurate measurement of tool cutting edges under incident light



- Universal spindle with VSH change and power clamping
- Fast measurement with ZOLLER »focus 360i« process
- Concentricity and axial run-out diagram with automatic cutting edge correction function and tolerance range
- Automatic concentricity and axial run-out compensation with regard to the machine spindle*
- Integrated measuring sensor for axial run-out compensation of basic tool body for optimal manufacturing results*
- Automatic cutting edge cleaning*
- Space-saving protective housing*
- Calibrator for balancing machine spindles*

*Option



»gemini 2« with optional protective housing

Greater accuracy, longer service life, higher productivity

Technical specification	Measuring range length Z	Measurable diameters	Maximum tool weight	Clamping power
»gemini 2«	80 mm (from VSH square end)	500–1000 mm	250 kg	20,000 N

Subject to technical modifications. The illustrated machines may include options, accessories and control variants.

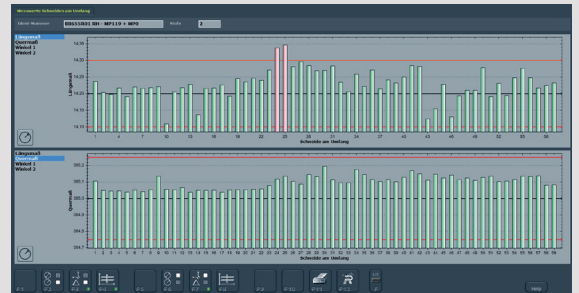
ZOLLER »pilot 3.0« | »focus 360i«

Unrivalled speed

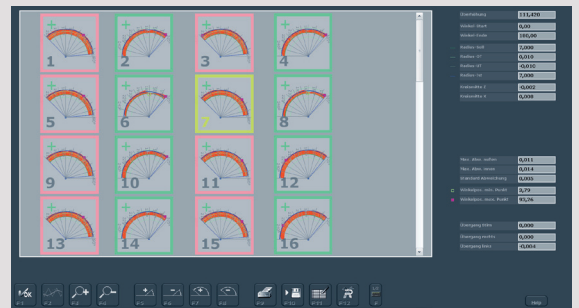
The ZOLLER measuring mode »focus 360i« measures 120 cutting edges in only 80 seconds. You simply can't measure your crankshaft cutters any faster and thus more efficiently!

However, the worldwide unique fully automatic measurement in the »focus 360i« measuring mode is not the only highlight of the well established ZOLLER »pilot 3.0« image processing system: »pilot 3.0« has remained unrivalled for years by competitors in terms of graphic evaluation via intelligent measuring programs, accurate protocol management through to data archiving for repeat orders. In combination with »gemini 2« it guarantees you a quantum leap of quality and efficiency.

Detailed, highly accurate evaluations

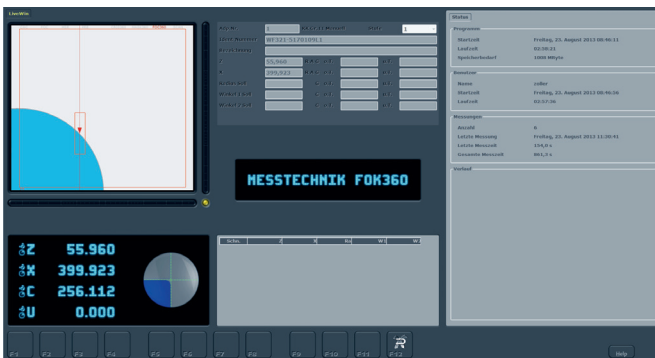


Tabular evaluation of concentricity and axial runout.



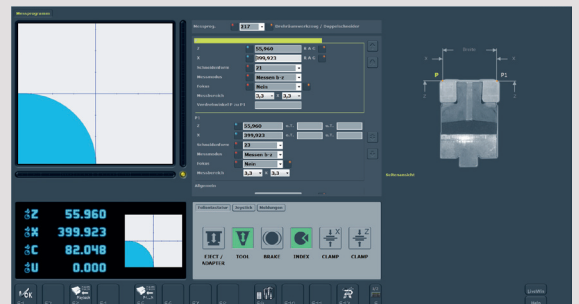
Graphical evaluation of the flanging radii (option).

Measuring mode »focus 360i«

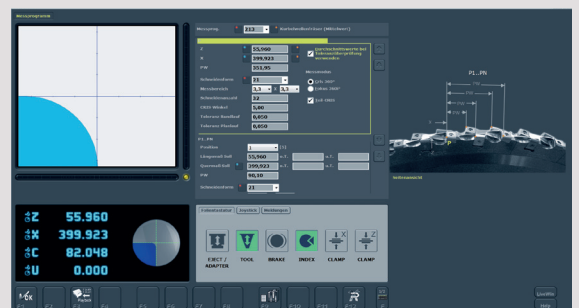


Fully automated circumferential measurement of all tool cutting edges in only 80 seconds: Z, X, W1, W2, cutting edge radius, axial run-out and concentricity.

Measuring programs



Measuring programs for measuring specific cassettes (i.e. width of milling cutter)



Measuring program for calculating the average values of circumferential cutting edges at several cutting edge stages.

ZOLLER »pilot 3.0« | axial runout and concentricity compensation

Delivers better results
automatically

Crankshaft cutters, correctly set to target specifications, result in a longer service life of the tools and high precision of the crankshafts. ZOLLER has developed a high-precision measuring sensor for axial run-out compensation for the »gemini 2« which makes the need for elaborate measuring equipment superfluous.

The optionally integrated measuring sensor of the »gemini 2« checks the axial run-out of the crankshaft cutter. The determined correction values are stored and then used automatically during measuring and presetting to compensate the axial run-out error.

Concentricity compensation is performed via image processing with a calibrator and a correction function in »pilot 3.0«. The calibrator, which is certified by an independent institute, supplies the correction values for comparison with the actual state.

accurate measurement
automatic compensation
operator-independent process

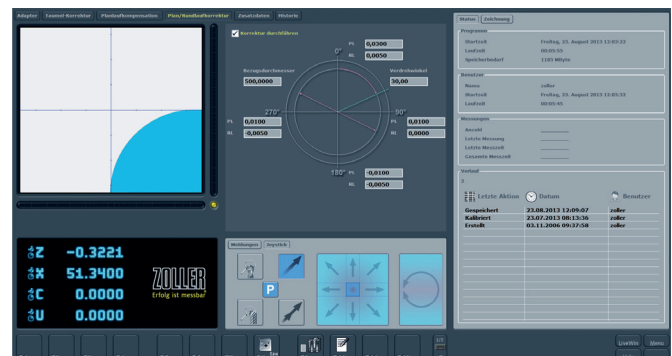


Automatic axial run-out compensation



Software function for the automatic determination of run-out errors on tools with ground inspection surfaces. The calculated run-out error serves as reference value for subsequent measurements.

Adapter, axial run-out and concentricity correction



Software function to determine the concentricity and run-out errors of the machine spindle and its automatic compensation during presetting or measuring of the crankshaft cutter.

Ergonomics and precision

Effortless presetting of crankshaft cutters with microprecision

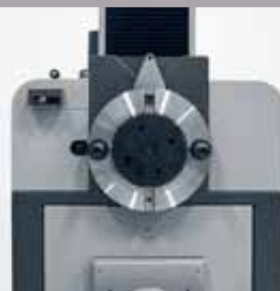
ergonomic
efficient
easy to operate



High-precision spindle and tool holding fixture
with power clamping 20,000 N, universal interface and tool post with loading safety



H6 high precision spindle for »gemini 2« with power-operated tool clamping and quick change device for tool posts with integrated clamping element. The safety lock guarantees safe change of tools.



Tool holding fixture KK »gemini 2« with load centering and integrated calibration spheres.



»gemini 2« for customized crankshaft cutter with outer cutting edges.

ZOLLER »gemini 2«

Accessories



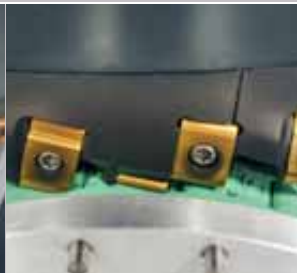
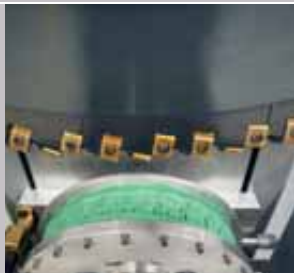
Storage device and loading trolley for tool posts

Comfortable storage device for safe and correct storing of tool posts. Loading trolley for safe, fast and ergonomic loading and unloading of the tool posts at the »gemini 2«.



Loading trolley for crankshaft cutters

For safe and ergonomic tool change without damaging the crankshaft cutter. At the same time, the loading trolley provides optimal positioning of the tool in the high-precision spindle.



Automatic cutting edge cleaning

For optimal cleaning of tools for the presetting and measuring process. Automatic cutting edge cleaning ensures microprecise measuring results.

Tool-specific tool post

Customized adapter with integrate calibration spheres for microprecise and fully automatic calibration.

**Assembly unit
for crankshaft cutters
»eQuick 300«**

Ergonomic and safe handling result in time savings of up to 40 % during the cleaning and loading of crankshaft cutters. The tool can be swivelled and rotated with complete ease, and clamped and unclamped without effort.



ZOLLER

solutions

PRESETTING SOLUTIONS

Presetting & measuring

SOFTWARE SOLUTIONS

Managing tools

INSPECTION SOLUTIONS

Inspection & measuring

BUSINESS SOLUTIONS

from A-Z

ZOLLER solutions - comprehensive optimization of your manufacturing operations. We combine machines, software and services to individual system solutions to improve quality, efficiency and productivity. As a customer of ZOLLER you not only benefit from our know-how as market leader in the field of tool measurement technology, but equally from our claim as a family-run business to guarantee you a sustainable competitive advantage and thus make a measurable contribution to your success.

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Concept & design: www.absicht.ag



www.zoller.info



E. Zoller GmbH & Co. KG | Tool presetter and measuring machines
Gottlieb-Daimler-Straße 19 | D-74385 Pleidelsheim
Tel: +49 7144 8970-0 | Fax: +49 7144 8060-807
post@zoller.info

ZOLLER
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