

The quantum leap in the complete inspection of hob cutters
hobCheck



Universal measuring machine for fully
automatic measurement of cylindrical hob cutters

»hobCheck«

With the universal measuring machine »hobCheck«, ZOLLER opens unprecedented opportunities for the fully automated and economical complete measurement of hard metal or HSS hob cutters. All parameters can be measured fully automatically through the intelligent combination of image processing technology, CNC axes and measuring sensors.

Benefit from improved tool quality, shorter setup times at the machines, less abrasion during sharpening and complete documentation.

Complex challenges solved with μ -precision

With »hobCheck« you benefit from precise and economical measurements. The swivable optic carrier guarantees distortion-free measurement of the tooth formation.

The user-friendly software with intuitive graphical user interface allows simple creation of measurement procedures, switching from random sampling to complete measurement as well as second measuring of individual parameters directly from the results list. Calculation of the quality grades and a graphic protocol are performed fully automatically.

The ZOLLER »hobCheck« - a quantum leap for users! The first workshop-suitable and at the same economical universal genius for complete measurement of hob cutters.

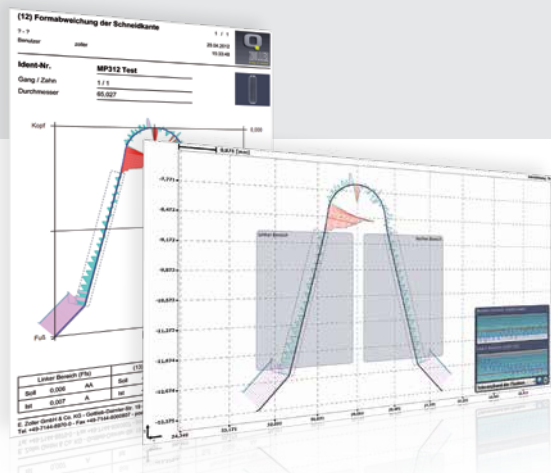


Leading measuring technology and unrivalled software

ZOLLER »hobCheck« with »pilot 3.0«

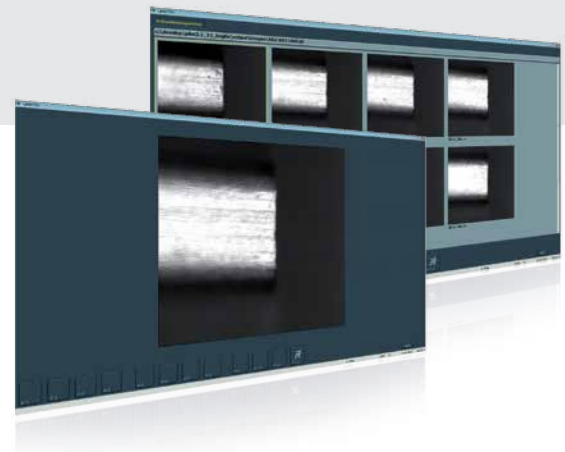
The »hobCheck« combines leading ZOLLER measuring technology with the proven user-friendly and worldwide unrivalled software »pilot 3.0«.

Actual vs. target comparison of tooth profile



- The contour measuring »lasso« inspects the tooth formation at one or more teeth. Deviations of flanks and profiles are displayed graphically.

Comfortable inspection of wear and tear



- The software option »aec« (auto-edge-check) automatically records an arbitrary number of teeth at their circumference and thus provides a fast overview for location and specific inspection of major wear and tear. This ensures that neither too much or too little is abraded during resharping.

Sophisticated mechanics



Universal spindle »ace«

Tool posts

- Comfortable clamping with the »ace« universal spindle. Universal and μ -precise change of tool posts. The option of clamping tools in the tailstock with tail center simplifies the handling of hob cutters.



- By combining measurement sensors, an incident light camera and transmitted light image processing, more than 15 parameters such as, for example, tooth profile, concentricity, wobble, pitch, shape and position can be measured.

All highlights at a glance

- Graphical interface for intuitive operation
- Measurement of parameters according to DIN 3968
- Automatic assignment of quality grade
- Second measurement function
- High rate of image repetition for fast measurement results
- Combination of image processing and sensors
- Representative documentation

Complete measurement of hob cutters



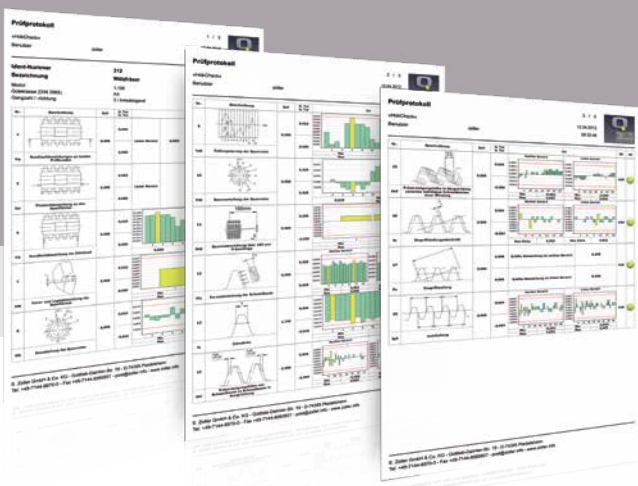
- The parameters given for hob cutters in DIN 3968 (04 to 17) are measured fully automatically (graphical input dialog in »hobCheck« software).



- The measured results are presented in detail and clarity. The display includes the description according to DIN, the individual measurements, their course, the quality class achieved, as well as the tolerance status.

Complete documentation of comprehensive measurements according to DIN 3968

- The unique evaluation software »hobCheck« permits the automatic evaluation, clear display and documentation of extensive measurements according to DIN 3968 of straight-fluted, cylindrical hob cutters. In addition, automatic grade classification (D/C/B/A/AA/AAA) of the tools is included. For you this means documented quality, greater user confidence and less complaints!



Complex challenges solved with μ -precision

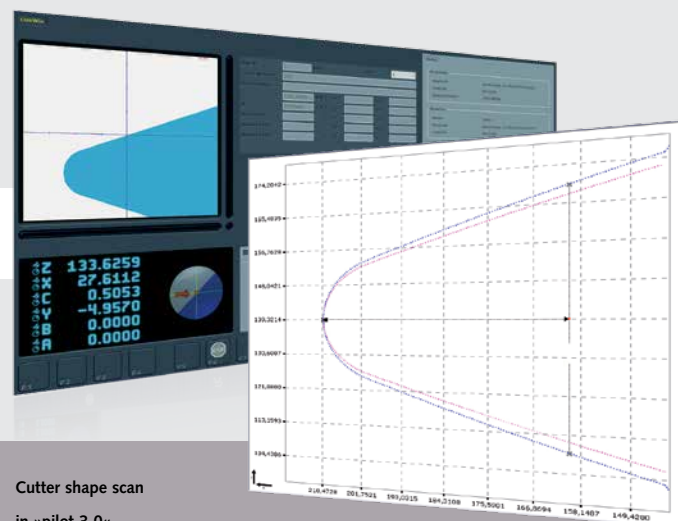
Only available
from ZOLLER!

CNC-driven,
swivel-mounted
optic carrier

- Swivel range
 $\pm 30^\circ$
- Measurable
outer diameter:
420 mm
- Measurable snap
gauge diameter:
60 mm

ZOLLER »cris« 3D measuring method

- The »cris« (circular-response-image-sampling) 3D measuring method enables distortion-free measurement of spiral-fluted tools such as gear cutting and threading tools, while taking helical angles into account. The axial movement of the cutting edges during rotation of the tool is compensated through constant compensatory movement of the CNC axes. In addition, swivelling of the optic carrier allows recording of the effective contours for the first time ever. This method enables a distortion-free display of spiral-fluted cutting edges. The effective contours of the cutting edge can also be defined automatically for multiple graded partial cutting edges along the circumference. Something only ZOLLER can do - worldwide!



Cutter shape scan
in »pilot 3.0«

Difference in contour with or
without CNC-swivelled optic carrier

Furthermore, ZOLLER offers the solution for gear hobbing machines fitted with reverse plates

Measurement of hob cutters fitted with reverse plates "tooth shape section"

- The contour recordings of spiral-fluted tools can be measured precisely by rotation and tool pitch. The tooth shape consists of several segments.



Photo-realistic input dialog »pilot 3.0« MP 311

Measurement of hob cutters fitted with reverse plates "complete tooth shape"

- This measuring program allows the fully automatic measurement of up to ten parameters for hob cutters fitted with reverse plates.



Photo-realistic input dialog »pilot 3.0« MP 313

Measurement of form milling cutters

- Up to eight parameters such as, for example, concentricity and circular runout, tooth shape, segmentation and tooth thickness can be measured for form milling cutters.

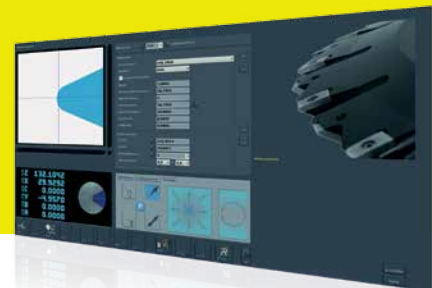


Photo-realistic input dialog »pilot 3.0« MP 314

Measurement of shaper cutters

- The measuring of shaper cutters includes the parameters diameter, clearance angle, rake angle and run-out.



For diameters greater than 420 mm, ZOLLER offers the »smarTcheck 800« for form milling cutters



Photo-realistic input dialog »pilot 3.0« MP 271



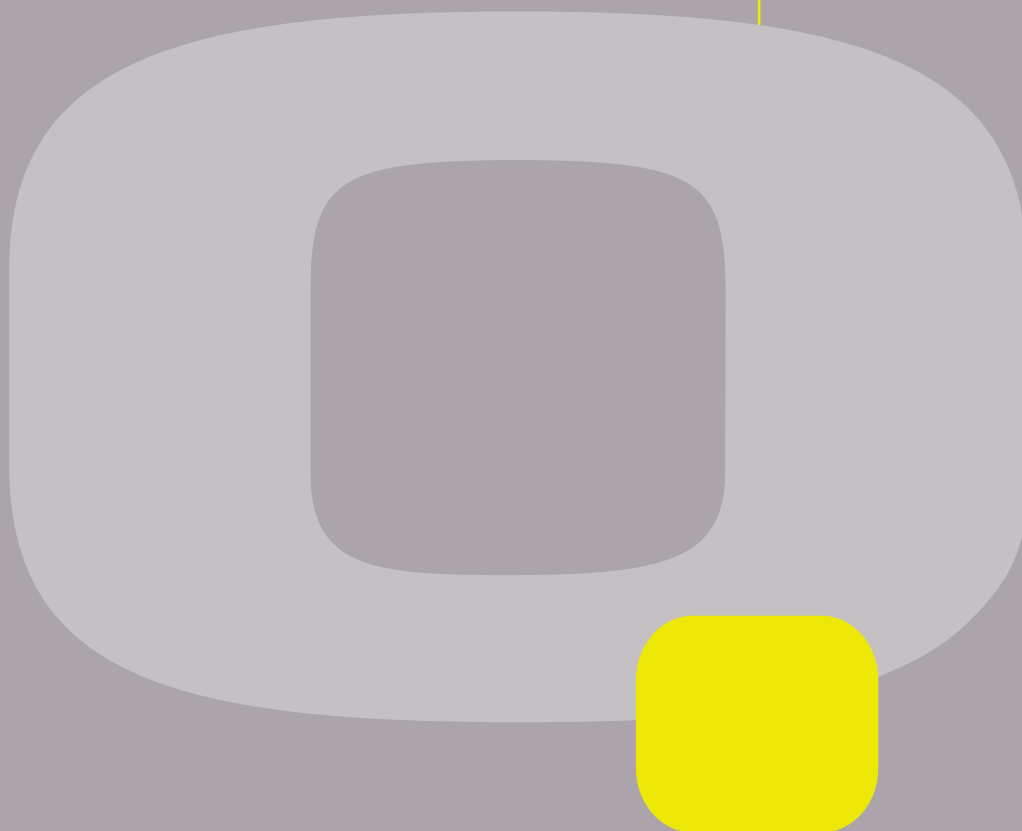
»hobCheck 600«

Technical data

	Measuring range Z axis	Diameter	Snap gauge-Ø	Travel Y axis	Maximum meas- uring depth of sensors	Maximum tool weight	CNC-driven optic carrier swivelling device	Clamping range tailstock
»hobCheck«	500 mm	420 mm	60 mm	±40 mm	25 mm	100 kg	±30°	100 - 600 mm (option)

In connection with a tailstock, tools of up to 200 mm in Z mounted between centers can be measured axially/frontally.

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



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