

ZOLLER
INSPECTION SOLUTIONS

Universal measuring machine for fully automatic measurement of cylindrical hob cutters

hobCheck

ZOLLER
expect great measures®

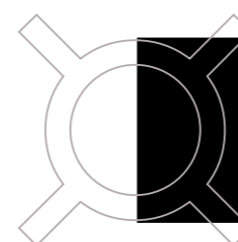
The quantum leap in the complete inspection of hob cutters

»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 resharping and complete documentation.

With »hobCheck« you solve complex challenges with μm -precision and benefit from 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.



easy operation
fully automatic
workshop-compatible



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.

Fully automatic measurement of hobbing machines

Technical specification	Travel range Z-axis	Travel range X-axis	Travel range Y-axis	Measurable tool \varnothing	Measurable snap gauge \varnothing
»hobCheck«	600/800 mm	200 mm	± 40 mm	360 mm	60 mm
	Maximum measuring depth sensor	Maximum measuring length of face	Swiveling device for optical carrier	Tool lengths tailstock (option)	
	25 mm	200 mm	$\pm 30^\circ$	100–600/800 mm	

In connection with a tailstock, tools of up to 200 mm in Z mounted between centers can be measured axially/frontally. Subject to technical modifications. The depicted machines may include options, accessories and control variants.

ZOLLER »hobCheck« with »pilot 3.0«

Leading measuring technology and unrivalled software

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

intuitive operation
representative documentation
second measurement function

- 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

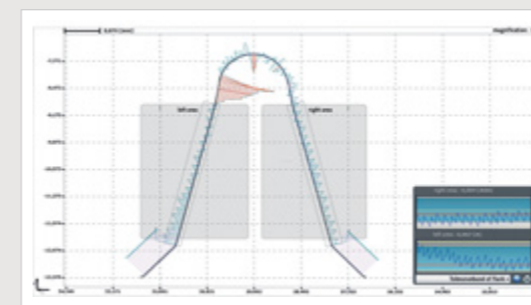


The parameters given for hob cutters in DIN 3968 (04 to 17) are measured fully automatically (graphical input dialog in »hobCheck« software).



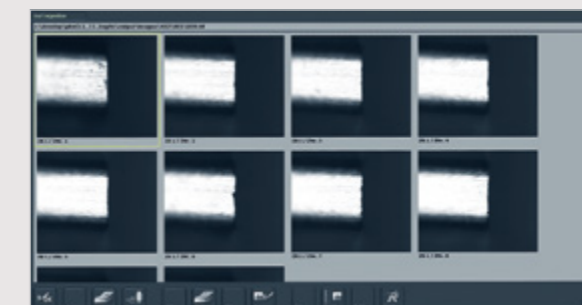
The measured results are presented in detail and clarity. The display includes the description according to DIN, the individual measurements, their course, the quality class achieved, as well as the tolerance status.

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.

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!



Sophisticated mechanics



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.

Up to the solution for gear hobbing machines fitted with reverse plates

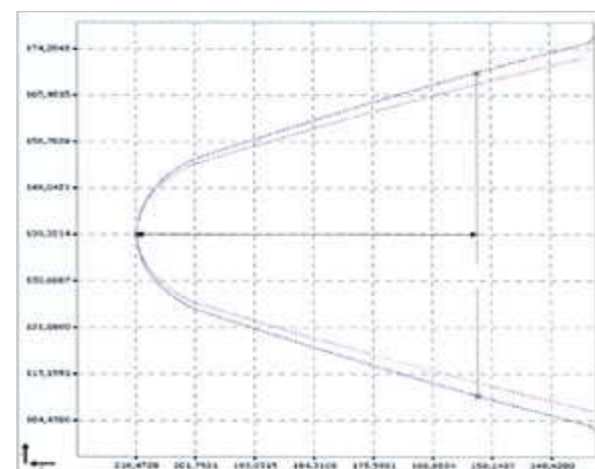
Complex challenges solved with μm -precision

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.

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 »hobCheck«

Accessories and options

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.

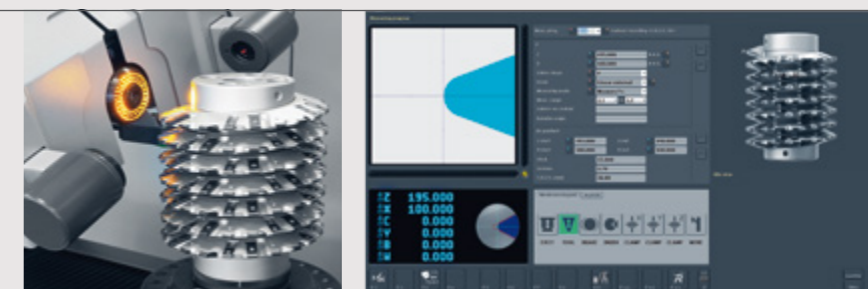


Photo-realistic input dialog »pilot 3.0« MP 311

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.

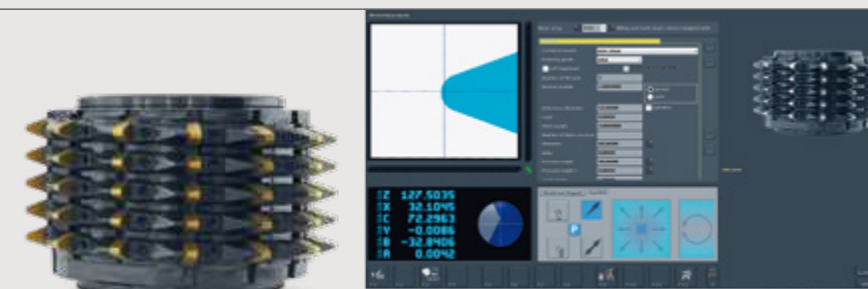


Photo-realistic input dialog »pilot 3.0« MP 313

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.

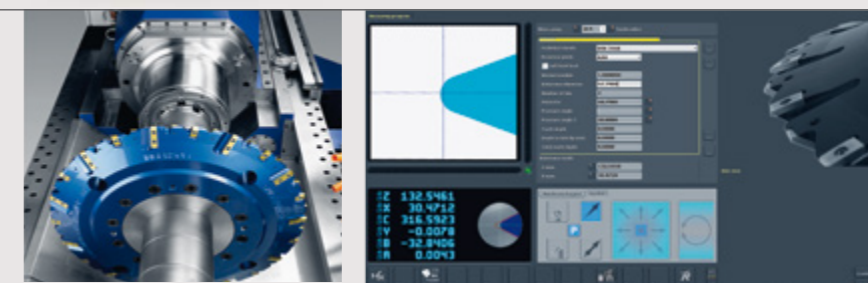


Photo-realistic input dialog »pilot 3.0« MP 314

Measurement of shaper cutters

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

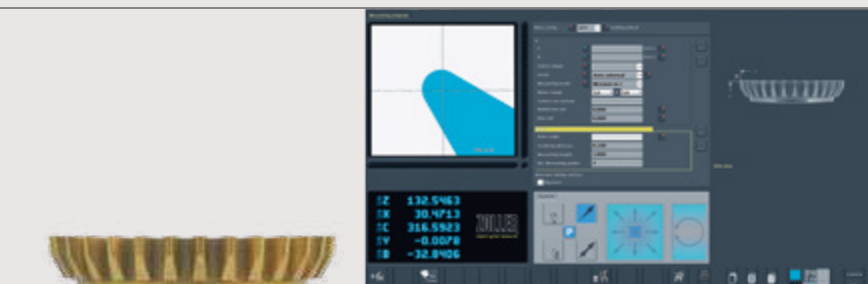


Photo-realistic input dialog »pilot 3.0« MP 271

Measurement of larger diameters

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



ZOLLER

solutions

PRESETTING & MEASURING

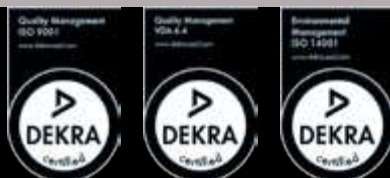
TOOL MANAGEMENT

INSPECTION & MEASURING

AUTOMATION

ZOLLER solutions stand for the comprehensive optimization of your tooling operations. ZOLLER combines hardware, software and services to individual system solutions to improve the quality, efficiency and productivity involving your tools. 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.

Subject to technical modifications. The depicted machines may include options, accessories and control variants. BRH05.01 - EN 01/2019
Concept & design: www.absicht.ag



www.zoller.info

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