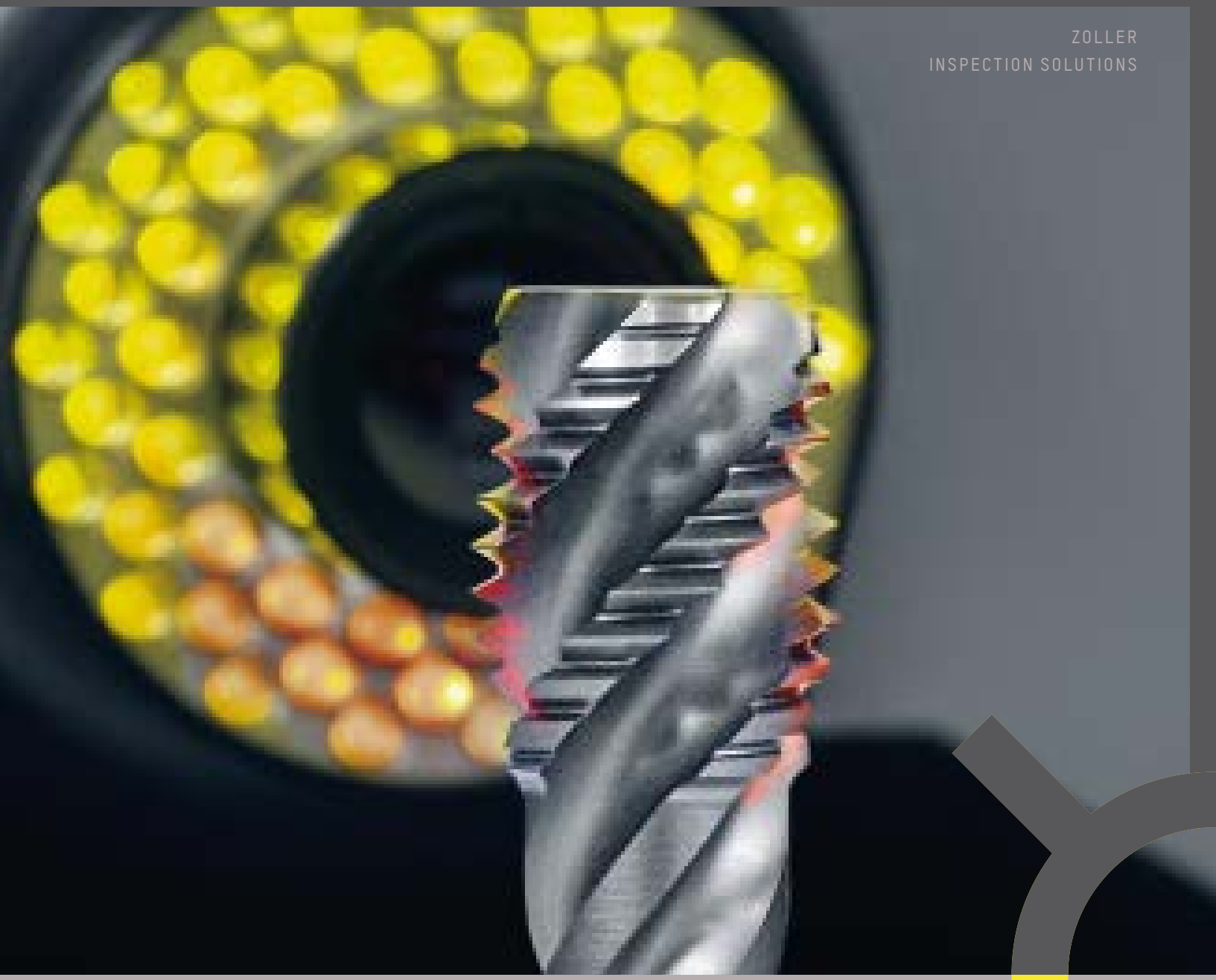
ZOLLER
INSPECTION SOLUTIONS



The Universal Measuring Machine For Cutting and Threading Tools

threadCheck

ZOLLER
expect great measures

The Thread Professional

The new »threadCheck« universal measuring machine from ZOLLER really starts to come into its own at the point where conventional metrology reaches the limit of its capabilities. At that point, thanks to its six CNC axes and the swivel-mounted »orthoScan« multi-sensor optic carrier, you can measure metal-cutting tools of all kinds rapidly and with absolute precision, and you can also measure pitched tools to micron-level accuracy without any distortion at all. This prepares you well to contend with the rapidly rising demand for threading tools and the increasingly stringent quality standards. Many economic benefits – from a single measuring machine:

»threadCheck«

»threadCheck«

With ZOLLER »threadCheck« you can measure a vast array of metal-cutting tools, including special tooth flank geometries, operator-independent at the click of a mouse for maximum efficiency and cost-effectiveness in production.

Whether a thread tap, thread milling cutter or thread-shaping tool – with six CNC-controlled axes, image processing with intuitive operation, ultra-modern multiple sensors and the fully automatic »orthoScan« swivel-mounted multi-sensor optic carrier you can measure pitched tools inductively and without distortion including test report. The precise actual data for your tools guarantee you a high level of production quality and process reliability.

Comprehensive documentation protects you from complaints. Thanks to this simple use, your overhead for training delivery is minimal. Furthermore, through this functional, slimline design, you can employ »threadCheck« in a production environment – the full cladding protects against dirt and extraneous light. This saves you the way to the measurement room. With »threadCheck« you win in every respect.

Highlights of »threadCheck«

Non-contact measurement | Fully-automatic measurements | Multiple sensors | Power clamping | Swivel-mounted multiple-sensor optic carrier | Central ZOLLER tool database | Ergonomics | Compatible interfaces* | Tailstock*

*Optional

ZOLLER
INSPECTION SOLUTIONS

Peak Performance!

Equipped with all functions of the tested and proven ZOLLER »genius« series and in addition able to clamp tools between centers and to eliminate distortion created by the tap-specific helical angle: »threadCheck«.

Technical Data

»threadCheck«	Travel Range Z-axis	Travel Range X-axis	Travel Range Y-axis
With Enclosed Protective Housing	600 mm	235 mm	± 50 mm
Without Enclosed Protective Housing, with Tailstock	600 mm	200 mm	± 40 mm
Without Enclosed Protective Housing, without Tailstock	600 mm	200 mm	± 40 mm

Subject to technical modifications. The depicted machine may include options, accessories and control variants.

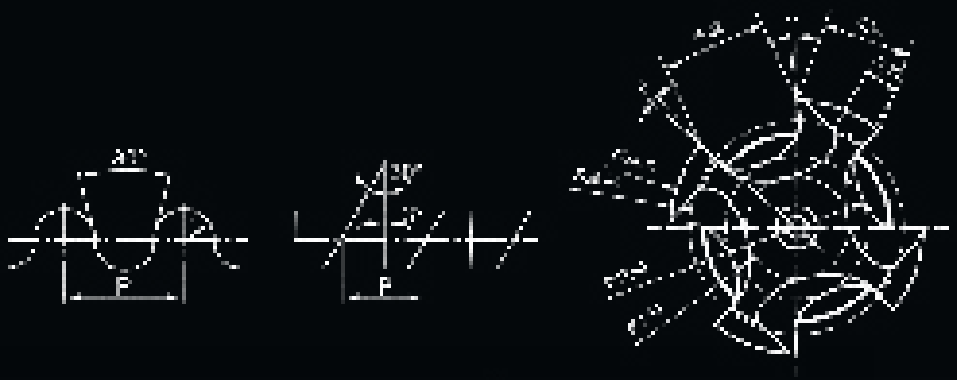
Figure: »threadCheck« is optionally available with a tailstock (pneumatic-tail center) and available without protective housing.

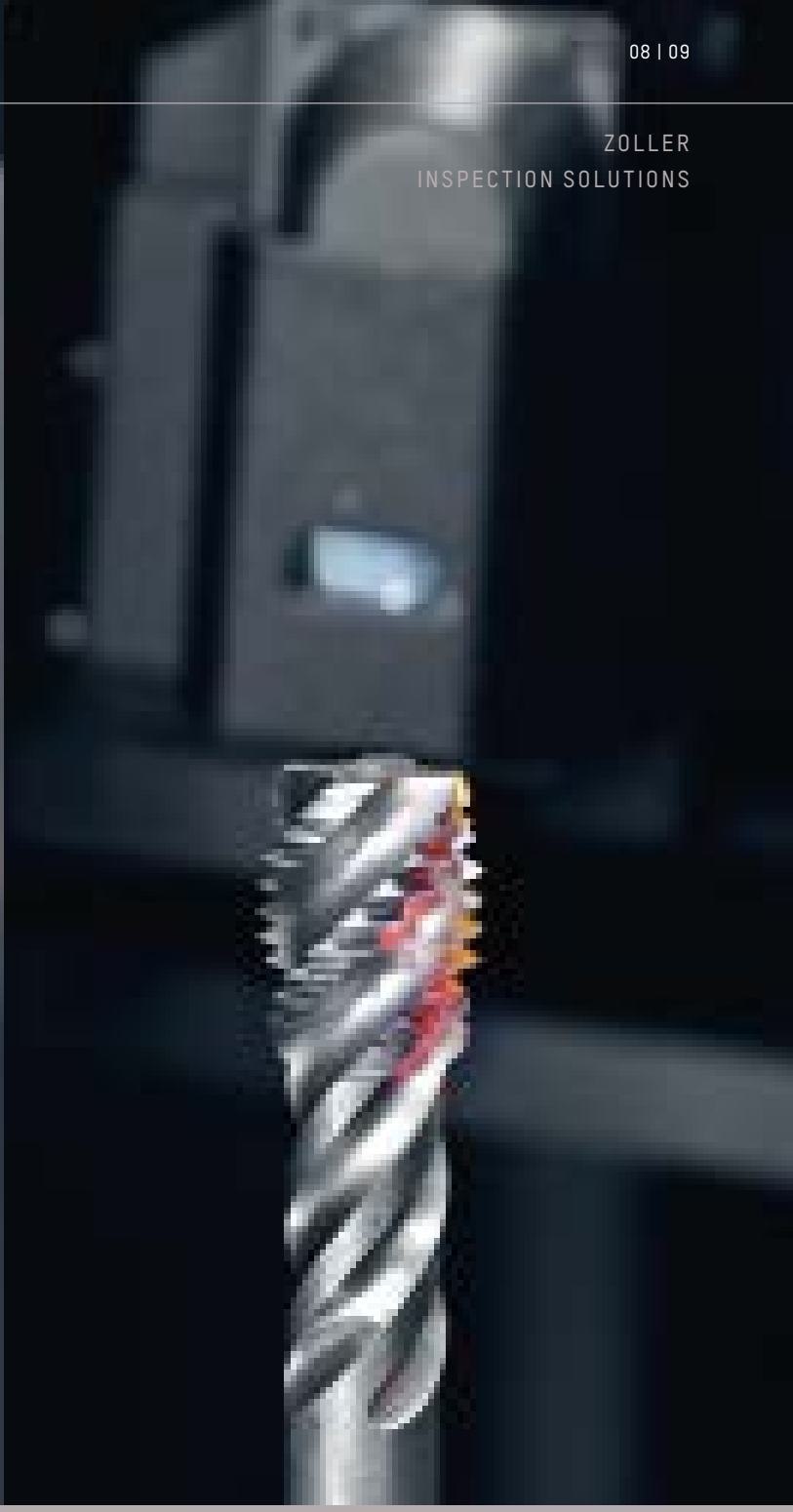
Measurable Tool Diameter	Maximum Tool Length For Axial Incidental Light Measurement	Measurable Snap Gauge Diameter	Swiveling Device For Optical Carrier
470 mm	500 mm	60 mm	± 30°
400 mm	500 mm	60 mm	± 30°
400 mm	500 mm	60 mm	± 30°

- Swivel-mounted multiple-sensor optic carrier »orthoScan« for distortion-free measurement of tooth geometry.
- Non-contact measurement of a vast array of tool geometries in incidental light and vertical light (optional sensor for micro tools)
- Image-processing technology »pilot 3.0« for the universal and fully-automatic measurement of every kind of metal-cutting tool including specific thread-measuring programs
- Universal high-precision spindle »ace« (all-clamping-element) with concentricity of ≤ 0.002 mm and changing accuracy of 0.001 mm
- Autofocus, rotation sensor and CNC drives

Universal Genius or Thread Specialist? Both!

Whether you are measuring individual parameters or conducting a fully-automatic complete check either of metal-cutting or of threaded tools: No matter which measurement tasks you face, with »threadCheck« you can tackle them to micron-level accuracy and without optical distortion, operator-independent, fast and reliably. Using just one system for a vast array of measurements greatly speeds up your operations.





universal

»threadCheck« is the universal solution for the inspection of all kinds of cutting tools – matched to your requirements and suitable for use anywhere where there is a need to find a fast solution to measurement and inspection tasks. Fully automatic measuring program operations are simple to create using »pilot 3.0« image processing, the solution to measurements in transmitted and incident light at the circumference and on the tool end geometry. An optional sensor can measure geometries of the cutting edge preparation. The parameters to be measured are selected in a photo-realistic input dialogue via checkboxes, and when the nominal data is entered, the tolerance check is performed automatically.

in particular

The thread professional »threadCheck« is ideally equipped with its six CNC axes and the swivel-mounted multiple-sensor optics carrier »orthoScan« for the contact-free measurement of threaded tools – including self-explanatory measurement programs with photo-realistic input dialog boxes. Through the micron-precise identification of a diverse range of tooth flank geometries such as the point diameter, pitch, flank angle, rake angle, back taper, eccentric relief – and the list goes on – ZOLLER »threadCheck« is the world's only thread specialist in this class.

Reliably Efficient

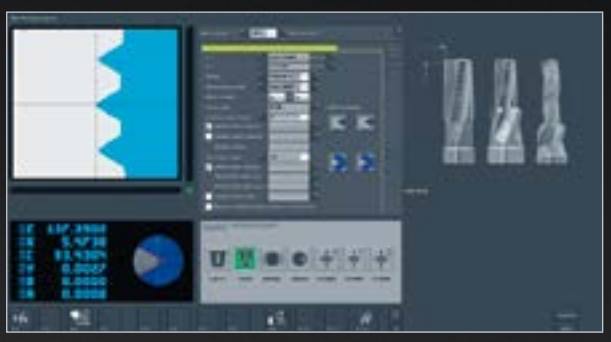
One click – and threaded tools are measured fully automatically, without optical distortion, and without making physical contact (i.e. inductively). Even the tiniest geometries are detected quickly and reliably by »threadCheck« – a clear advantage over tactile measuring methods.

Measuring helical tooth geometries optically? No problem with the specialist ZOLLER thread measurement programs in »pilot 3.0« image processing. The measurements are conducted in accordance with the applicable standards and are saved in the central ZOLLER tool database z.One. Since »threadCheck« records and verifies any desired number of teeth individually, when required individual parameters can be rechecked – without repeating the entire measurement sequence. This saves time and money. All measurement results that fall outside tolerance are color-coded so defects are detected and corrected immediately. Cost-effective work really is that simple!

Measuring Program for Threading Tools

With the ZOLLER measurement program for metric ISO and Whitworth pipe threads, it is possible, without programming, to measure and record results for taps, thread mills, and thread forming tools with or without helical angle.

Measuring Program for Thread Milling Cutters in Transmitted Light

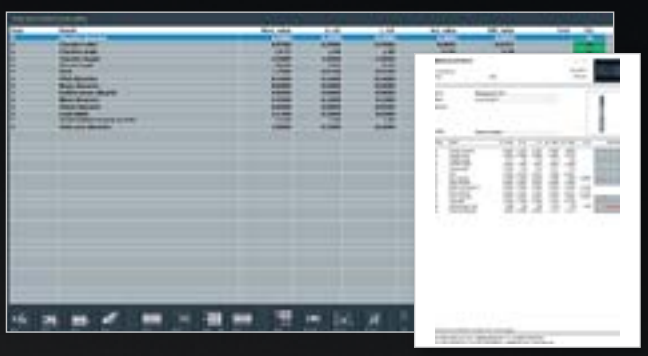


Thread milling cutters of the GFM/GF and GFS types are measured in transmitted light. This enables to inspect cylindricity (back taper), conicity (taper angle) and the concentricity of major, minor, and core diameter.

Measuring Program for Thread Milling Cutters in Incident Light

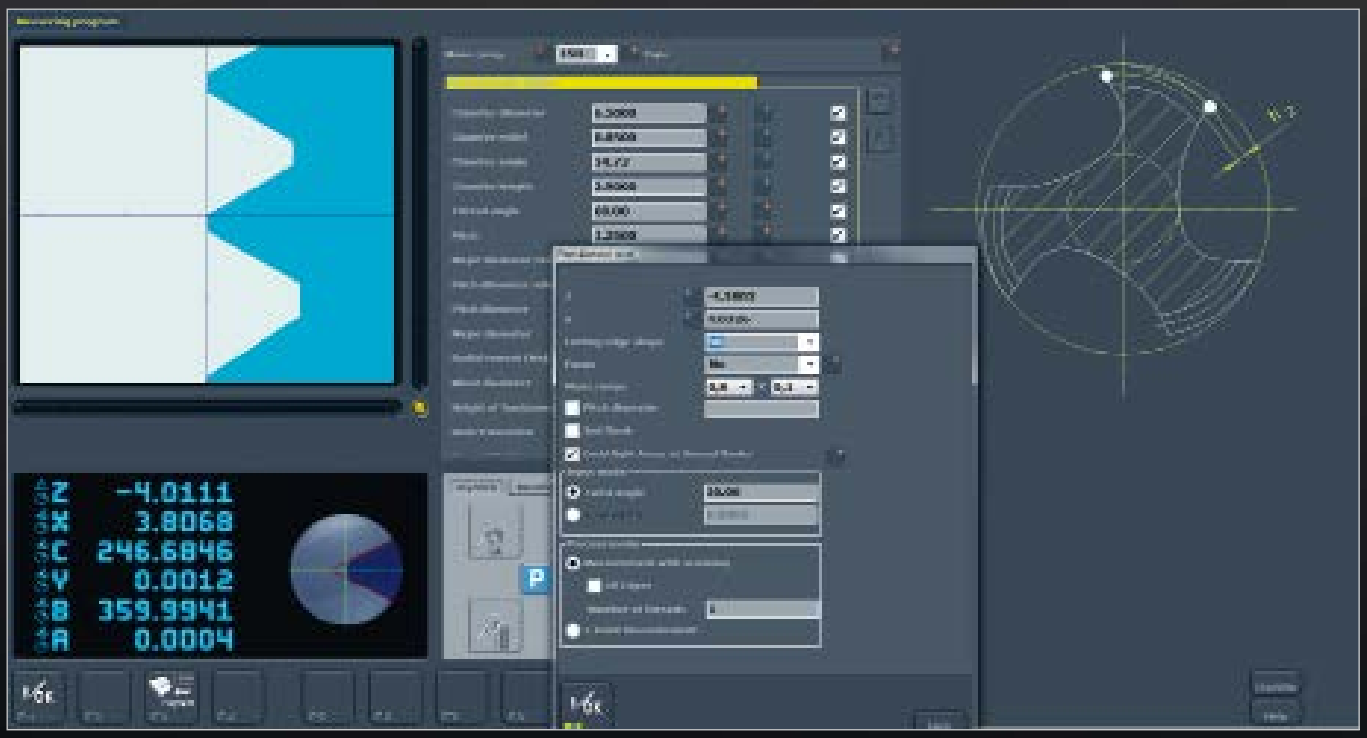
Thread milling cutters can be measured in incident light, by simply specifying their nominal data. This means that parameters such as rake angle, radial relief angle, chamfer height, core diameter, and/or web thickness and position of the machining surface are measured quickly and in fully automatic mode.

Evaluation of Results Including Test Report



The measurement results are documented in a tool-specific manner and the evaluations can be exported as PDF or as printed test reports.

Step 1: Input of Nominal Data



The desired nominal data are entered in their respective boxes and/or are filed automatically. Tolerances can also be added.

Step 2: Positioning of the Tool Cutting Edge

The optic carrier is positioned CNC driven in accordance with corresponding nominal data.

Step 3: Automatic Focusing

The »pilot 3.0« image processing detects automatically the matching cutter shape and focuses the cutting edge for measurement independently from the operator.

Clearance: 1 - 2 - 3 - 4 - Done!

With the ZOLLER universal measuring machine »threadCheck«, you can measure complex flank geometries without contact and therefore in a way that preserves the tool. This process is quick and accurate within a micron, and involves four simple steps.

Especially with small and sophisticated tooth flanks, mechanical or tactile measurement methods are imprecise, geometries are difficult to recognize, and it is even possible for a tool to get damaged during this measurement process. With »threadCheck« you avoid all of this: The non-contact measurement in transmitted and incident light covers a wide range of parameters as well as all thread geometries to be measured reliably and fast. Contour and form as well as the profile on the clearance are detected automatically, focused and results are ready in just four simple steps – all to the highest precision down to the micron level. Something only the ZOLLER »threadCheck« can do – worldwide.

Step 4: Non-contact Measurement

The optic carrier rotates in line with the helical angle within seconds to measure the flank relief angles contactless and reliably using the transmitted light camera.

Done: Output of All Measuring Results

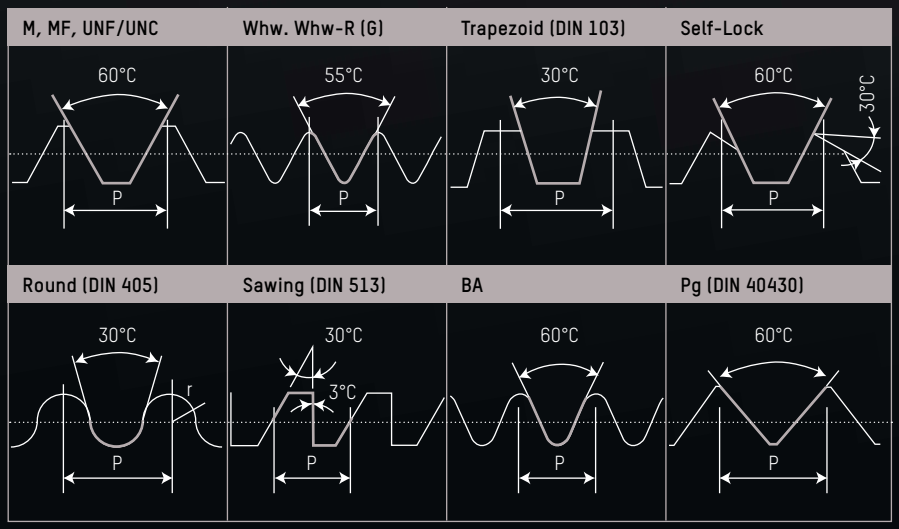
The actual data is saved to corresponding tool ID in the central ZOLLER tool database z.One. In this example: Graphical recording of the flank relief.

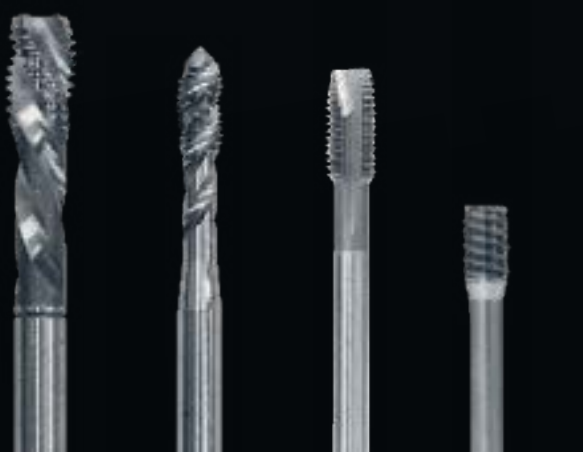
Thread Types at a Glance, Costs under Control.

With ZOLLER »threadCheck« you record the tool parameters throughout the entire production process. This enables you to optimize your production operations, to shorten lead times, to improve quality, and to increase customer satisfaction.

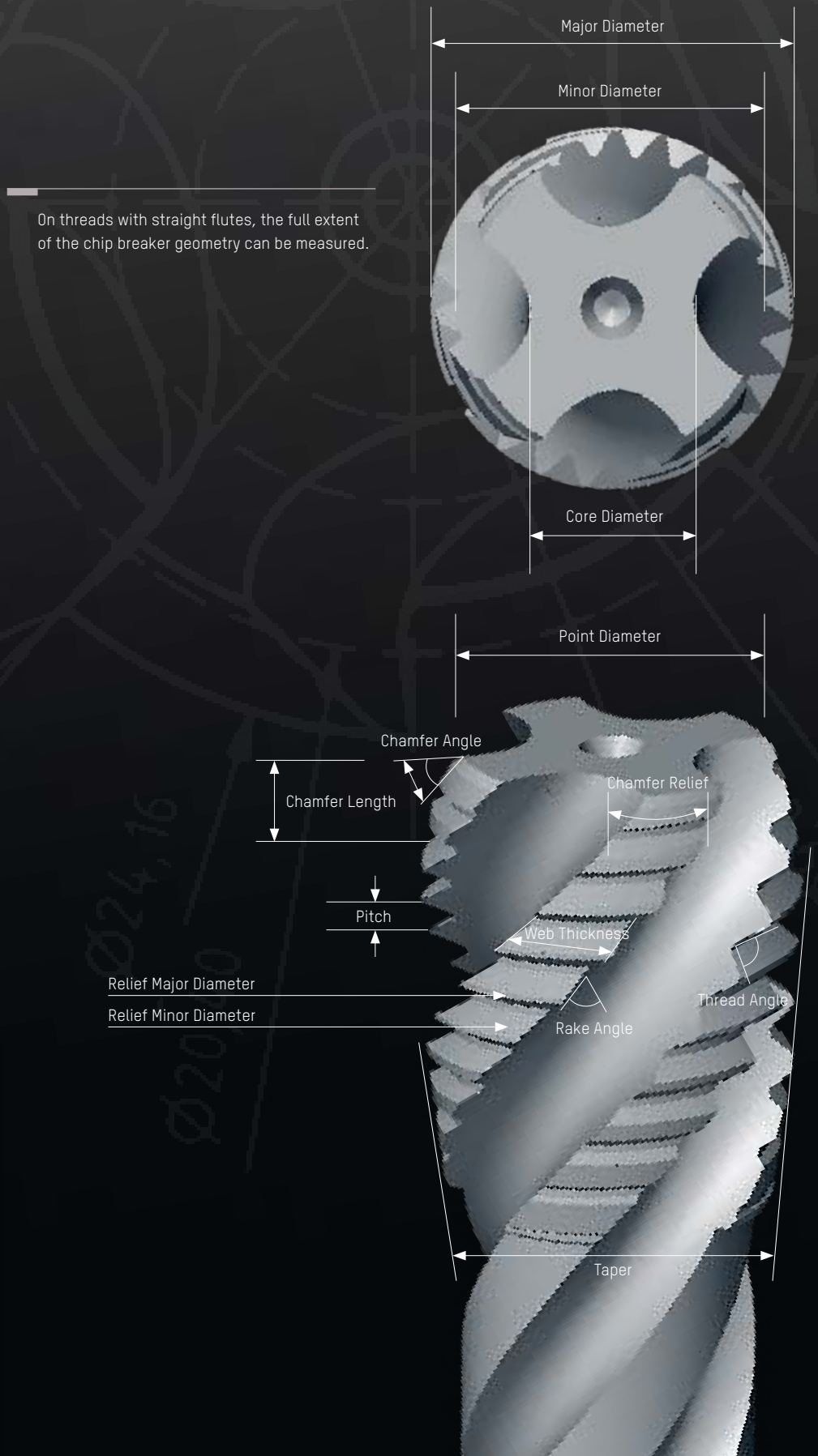
From blank to the grinding of clamping grooves to gear and first cut geometry, the geometries are checked repetitively, possible deviations are detected at an early stage, corrected quickly, and eliminated from the final product. This quality inspection and all of its intermediate steps guarantee traceability across all phases of production. Regardless if »threadCheck« is used for the in process inspection or for measurement of the final product – you receive a report for each tool, that is providing complete verification of the product quality.

Overview of the Measurable Types of Thread:





On threads with straight flutes, the full extent of the chip breaker geometry can be measured.



Complex Tasks.
Simple Application.

»threadCheck« equipped with the intuitive ZOLLER image processing »pilot 3.0« and a wide range of measuring functions (that can be extended if desired) is ideally equipped for comprehensive measurements of various machining tools. The selfexplanatory menu buttons are graphical aid for orientation and even highly complex measuring sequences are performed fully automatically; from the fast inspection of individual parameters to the complete measurement of complex step tools. Precise and seamless test reports provide you and your customers with additional maximum peace of mind – very easily indeed.

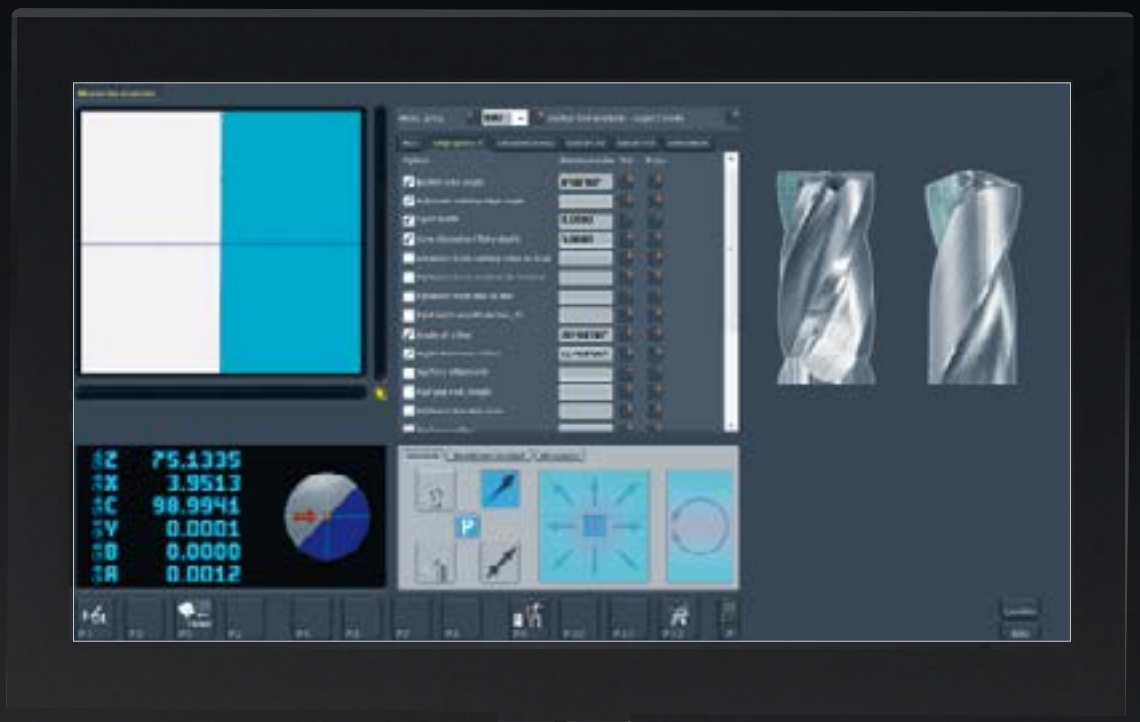
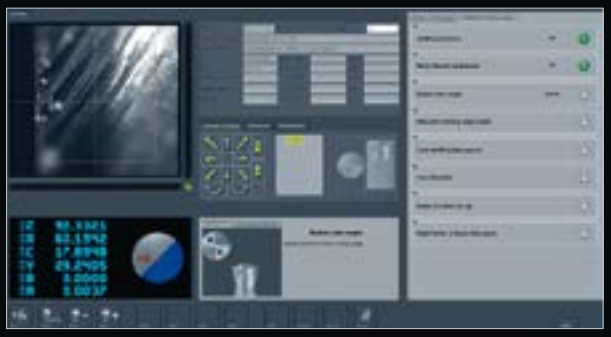


Photo-realistic Measuring Program Generator»expert«

Exceptionally simple creation of fully automatic programs for measuring in transmitted and incident light, at the circumference, chip space and at the end of the tool. The parameters to be measured, e.g. hook angle, radius curvature, chip space scan, helix angle, clearance angle, chamfer width, cutting edge preparation, etc. are selected easily in the »expert« measuring program generator via the checkbox, then measured. The tolerance check is performed automatically by entering the nominal data.

operator-independent
fast familiarization
complete documentation

Navigation/Information

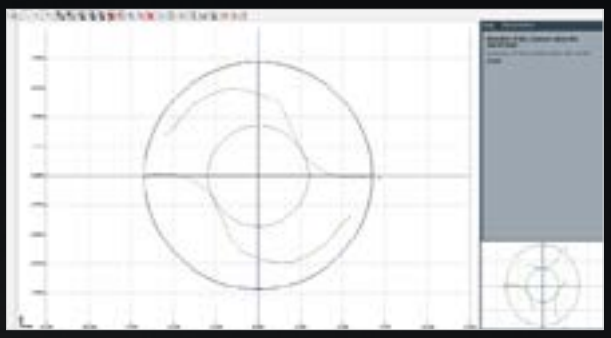


With the high-resolution live-image display of the cutting edge in incident light and the virtual ZOLLER joystick for navigation, the precise position used for the measurement can be defined with great ease.

Measuring of Cylindrical Hobs*

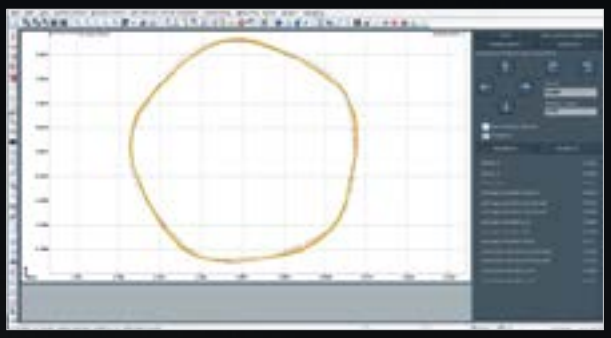
The measurement of hobs and the graphical output of measuring results is based on DIN 3968 and includes an automatic tolerance check and the quality grade achieved for each parameter.

Groove/Chip Space Scan



The form of the chip space contour is scanned automatically and contactless and illustrated graphically. The output can then be exported as a DXF/XML file and compared to nominal data.

Nominal/Actual Contour Comparison »lasso«

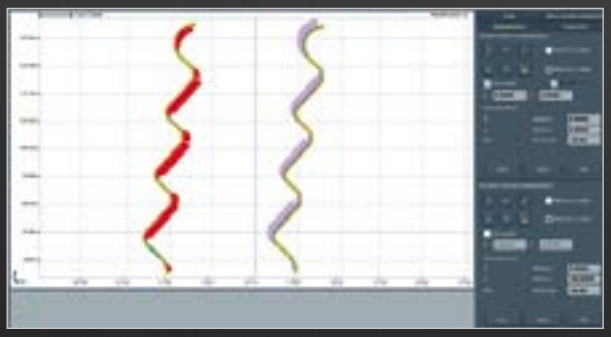


In »lasso« the profile is determined for every type of tool and as actual DXF contour transferred (Fig. represents the nominal-actual comparison of a thread former).

* Measuring probe and tailstock are advisable

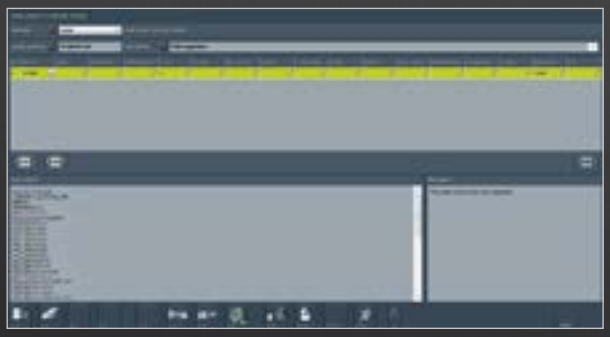
Software Functions for Efficient Measurement

Check Profiles: »coCon« for Form Tools



With this measuring program, the tool contour is scanned and the contour correction is calculated on the basis of the nominal DXF file for eroded or ground shaper tools. Output of the corrected contour is in DXF format.

Control-adequate Data Output



The software function assures data output of the tool data processed to the machine controls, either on a USB drive, via serial port or through network directly to the grinding machine.

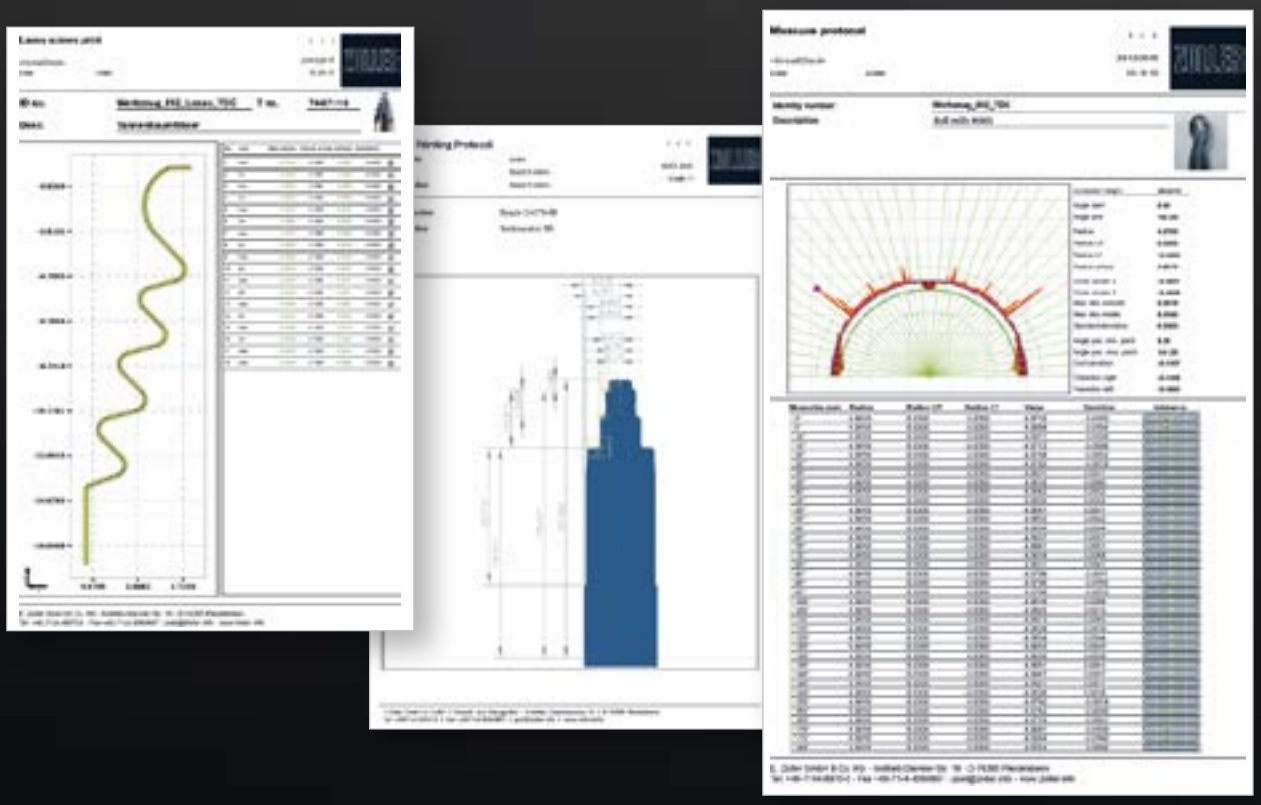
Reliable Measurement of Grinding Wheels

This specially developed measuring program for grinding wheels ensures fast, micron-precise and reliable measurement in accordance with the FEPA standard. The grinding wheels, depending on geometry and type, are automatically selected, measured, and recorded in detail. In case of multiple steps, the grinding wheels are saved as a package and measured as one sequence independently of the operator.

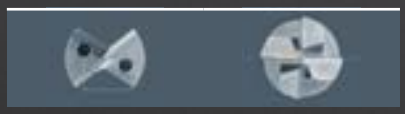
Maximum Control with Seamless Documentation

Evaluation of Results Including Test Report

The results are documented seamlessly, evaluated automatically and output in a tool-specific format, either as a PDF file or as a printed test report: For example, tables of measuring results can be documented together with a tolerance band or graphics, including a nominal-actual comparison.



More than 100 Measurable Parameters – Here Is a Summary of the Most Important Ones.

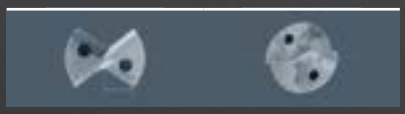


Distance from Contour to Contour (End, Circumference, Chip Space)

- Edge detection
- Repeatability 0.01 mm
- Duration: approx. 5 seconds

Cutting Edge Alignment - End

- Edge detection
- Repeatability 0.01°
- Duration: approx. 6 seconds



Distance from Contour to Middle (End, Circumference, Chip Space)

- Edge detection
- Repeatability 0.005 mm
- Duration: approx. 4 seconds

SE Alignment - End

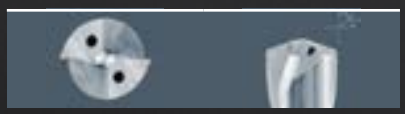
- Edge detection
- Repeatability 0.01°
- Duration: approx. 7 seconds

Distance Line-Line (Front, Circumference, Chip Space)

- Edge detection
- Repeatability 0.01 mm
- Duration: approx. 5 seconds

Cut-out Length

- Edge detection
- Repeatability 0.01 mm
- Duration: approx. 11 seconds

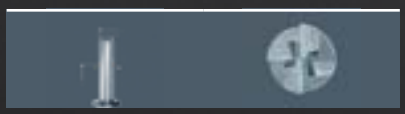


Alignment HP Front

- Edge detection
- Repeatability 0.02°
- Duration: approx. 7 seconds

Cut-out Angle

- 3D measurement
- Repeatability 0.05°
- Duration: approx. 4 seconds

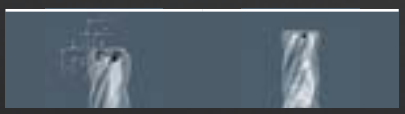


Diameter D / Snap Gauge

- 2D measurement
- Repeatability 0.002 mm
- Duration: approx. 3 seconds

Clearance Angle Front [3/4] (Clearance Angle 1 / 2 / 3)

- 3D measurement
- Repeatability 0.15°
- Duration: approx. 4 seconds

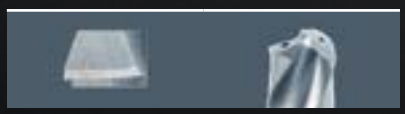


Chamfer Width, Length, Angle [1]

- 2D measurement
- Repeatability Chamfer width 0.005 mm Chamfer length 0.005 mm Chamfer angle 0.05°

Clearance Angle, Circumference [3] (Clearance Angle 1 / 2 / 3)

- 3D measurement
- Repeatability 0.15°
- Duration: approx. 4 seconds

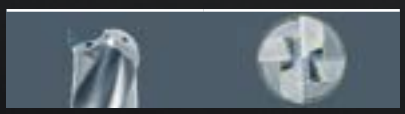


Axial Land Width [2]

- Edge detection
- Repeatability 0.01 mm
- Duration: approx. 3 seconds

Relief Radius

- 3D measurement
- Repeatability 0.25 mm
- Duration: approx. 5 seconds

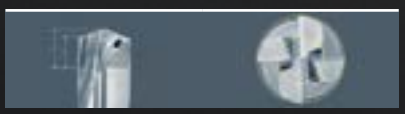


Flank Face Differences

- 3D measurement
- Repeatability 0.01 mm
- Duration: approx. 3 seconds

Core Diameter

- 3D measurement
- Repeatability 0.01 mm
- Duration: approx. 4 seconds



Head Length

- Edge detection
- Repeatability 0.01 mm
- Duration: approx. 6 seconds

Flute Depth

- 3D measurement
- Repeatability 0.01 mm
- Duration: approx. 4 seconds

Length Z

- 2D measurement
- Repeatability 0.002 mm
- Duration: approx. 2 seconds

Opening Angle

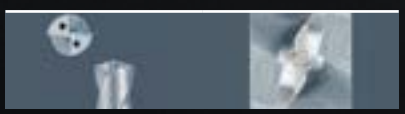
- Edge detection
- Repeatability 0.05°
- Duration: approx. 9 seconds

Line Center Offset

- Edge detection
- Repeatability 0.01 mm
- Duration: approx. 6 seconds

Run-out / Cutting Edge Top Runout

- 2D measurement
- Repeatability 0.002 mm
- Duration: approx. 10 seconds



Minor Cutting Edge Angle

- 3D measurement
- Repeatability 0.15°
- Duration: approx. 5 seconds

Chisel Length

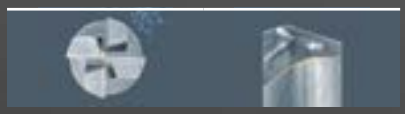
- Edge detection
- Repeatability 0.01 mm
- Duration: approx. 9 seconds

Chisel Edge Radius

- Edge detection
- Repeatability 0.02 mm
- Duration: approx. 5 seconds

Radius 1 (Front, Circumference, Chip Space)

- Edge detection
- Repeatability 0.02 mm
- Duration: approx. 3 seconds

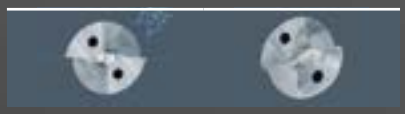


Chisel Angle

- Edge detection
- Repeatability 0.05°
- Duration: approx. 5 seconds

Radius 3 (Front, Circumference, Chip Space)

- Edge detection
- Repeatability 0.02 mm
- Duration: approx. 8 seconds

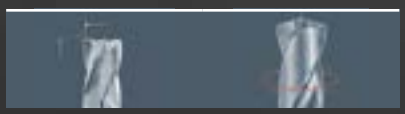


Chisel Angle, Sharp

- Edge detection
- Repeatability 0.05°
- Duration: approx. 5 seconds

Radius SL

- 3D measurement
- Repeatability 0.02 mm
- Duration: approx. 5 seconds

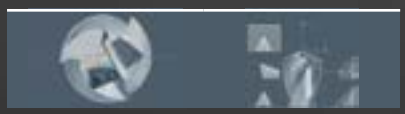


Radius / Cross Dimension [1]

- 2D measurement
- Repeatability 0.002 mm
- Duration: approx. 2 seconds´

Concentricity

- 2D measurement
- Repeatability 0.002 mm
- Duration: approx. 7 seconds



Cutting Edge via Center

- Edge detection
- Repeatability 0.01 mm
- Duration: approx. 6 seconds

Tip / Cutting Angle [1]

- 2D measurement
- Repeatability 0.05°
- Duration: approx. 6 seconds

Tip Angle / Negative Crown

- 2D measurement
- Repeatability 0.004 mm
- Duration: approx. 8 seconds

Axial Rake Angle

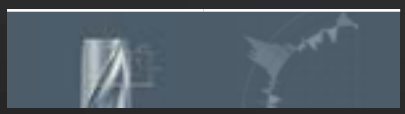
- 3D measurement
- Repeatability 0.15°
- Duration: approx. 4 seconds

Rake Angle

- 3D measurement
- Repeatability 0.15°
- Duration: approx. 5 seconds

Tooth Height [2]

- 3D measurement
- Repeatability 0.01 mm
- Duration: approx. 4 seconds

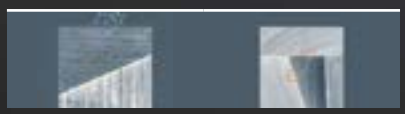


Helix Angle

- Edge detection
- Repeatability 0.02°
- Duration: approx. 10 seconds

Full-radius Contour

- 2D measurement
- Repeatability 0.002 mm
- Duration: approx. 5 seconds

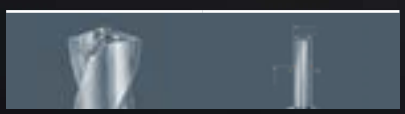


Angle on a Line (Front, Circumference, Chip Space)

- Edge detection
- Repeatability 0.05°
- Duration: approx. 5 seconds

Angle Between 2 Lines (Front, Circumference, Chip Space)

- Edge detection
- Repeatability 0.05°
- Duration: approx. 8 seconds



Centering Radius

- 2D measurement
- Repeatability 0.005 mm
- Duration: approx. 2 seconds

Cylindricity / Back Taper

- 2D measurement
- Repeatability 0.004 mm
- Duration: approx. 8 seconds

Captions
2D = transmitted light measurement
3D = incident light measurement

1) Depending on the quality of contour and size of object
2) Depending on the transitional contrast of clearance angle 1–2
3) From measuring window 0.35 mm
4) On stepped tools up to max. step length of 30 mm

Notes
The parameters depicted can be included as standard or as optional items in the scope of delivery of software for the »threadCheck« function. All technical data subject to change.

All specified values depend on the surface structure. The specified accuracies require that the measuring machine is not exposed to vibrations and is installed in an environment with stable ambient conditions. Different measurement methods for the same parameter may not be compared since calculations which are different technologically or mathematically may lead to different measurement results. The acceptance and verification of the specified accuracies is performed only using certified ZOLLER gauges: ZOLLER step gauge (2D) type no. 05B0031 ZOLLER angle-testing gauge (3D) type no. 9100116

Measure Everything. Clamp Everything. Accelerate Everything.

Whether CAT or HSK, whether Coromant Capto, VDI or Kennametal, shaft diameter 3 mm or 32 mm: With the power-operated high-precision spindle »ace« (all-clamping-element) from ZOLLER you always have the correct tool post available. Change over between tool holders is a matter of seconds with precision to the micron – just as quickly and convenient as you change tools. Because all tool posts are power-clamped at the touch of a button with consistent force, repeatable and fast.

Step Drill

Shaped Milling Cutter

Reduction Sleeves D32 mm

Colet Chuck Adapter D32 mm

Measuring Table for Small Parts D32 mm

Reversing Plate Holding Fixture D32 mm

Reversing Plate Holder D32 mm

Hydro-expansion D32 mm tool post

Grinding Wheel Pack

Monobloc Tool

Tool Post for Hollow Shank Taper (HSK)

Universal tool holding fixture for fast, micron-precise changes:
The power-operated high-precision spindle from ZOLLER

»ace«

The »ace« (all-clamping-element) high-precision spindle from ZOLLER clamps every tool in a power-actuated manner – with repeatability of 1 micron in just 10 seconds for each tool post change.

ZOLLER
INSPECTION SOLUTIONS

fast
universal
micron-precision

For decades, the brilliantly simple principle of the ZOLLER tool post holder with modular design has ensured accuracy to customers around the world. Here is why: The spindle is equipped with a ball bushing, all ZOLLER tool post holders are inserted precisely and, above all, without any play. This tested and proven system is absolutely free of wear and convinces through its least number of components, its light weight and its accelerated work flow. Conclusion: With ZOLLER you can change the tool post in less than 10 seconds with a precision of 0.001 mm – this changeover system is the first choice, in technical as well as economical terms.

Tool Chuck SK40

Tool Post, Steep-angle Taper (SK)

Coromant Capto-multi-tool

Tool Post Coromant Capto

Coromant Capto Fixture for Milling Cutter

Rotary Holder

Tool Post Kennametal

Tool post, adapter and tools not included in scope of delivery.

Membrane Keyboard

For fast and convenient operation of all power-operated functions of the tool holding fixture spindle.

Defining Measuring Tasks on 3D Model of Tool

ZOLLER »caz«* (computer-aided-ZOLLER) – virtual measuring device for definition and simulation of measuring tasks and measuring operations directly based on the 3D tool model:

1 | Programming and Analysis
Tools are programmed in CAD software or directly on the grinding machine.

2 | Analysis and Measuring Process Generation
Before a prototype is manufactured, the tool is first analyzed on the basis of the 3D model. The parameters to be measured are transferred to the virtual ZOLLER measuring device »caz«*. The user, e.g. in Production Planning, generates and simulates the measuring sequence using the design 3D tool model. The data is transferred to the ZOLLER tool database.

3 | Tool Manufacturing
The tool is produced in the CNC grinding machine in accordance with the 3D model and/or the NC program.

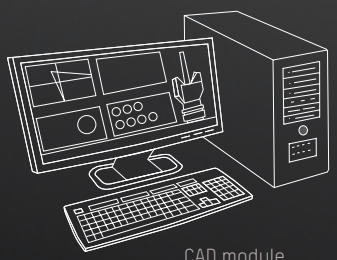
4 | Tool Measurement
The tool is measured in accordance with the measuring sequence set up in Point 2 with a tolerance check on the »threadCheck«.

4.1-4.2 | Non-contact Measurement of Thread Geometries
Thread geometries are measured optically without contact thanks to special measuring programs, e.g. the chip space, the taper, the shape of the tooth flanks, the eccentric relief and much more.

5 | Inspection Including Test Records
All parameters are recorded seamlessly, taking in consideration the entered tolerance limits. The actual data is saved centrally in the database. As an option, tool data can also be transferred back directly from »threadCheck« to the machine programming system (interfaces on request). The transfer of actual data to external systems is an option.

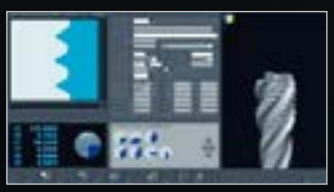
* Optional

1 3D tool model from CAD to ZOLLER »caz«* (computer-aided ZOLLER) as STEP and STL file



CAD module

2 Generation of measuring procedure and tool data record on the 3D model



»caz«* – virtual ZOLLER measuring device

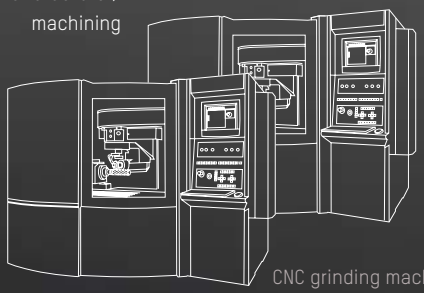
Transfer to the database

z.One – central ZOLLER tool database

Transmission of the CNC program

Tool manufacture / machining

3



CNC grinding machine/s

Tool transfer to »threadCheck«

4

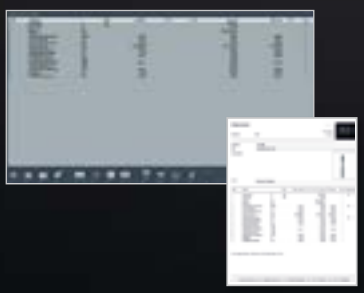
Call-off / transfer from the database

ZOLLER »threadCheck«

4.1 Automatic and operator-independent thread measurement

4.2 Non-contact, micron-precise measurement of specific parameters, e.g. flank relief

5 Check including test records (transfer of actual data to external systems)



- Operator-independent, automatic generation of measuring sequence from ZOLLER »caz«*, the virtual ZOLLER measuring device
- Efficient processes thanks to fully automatic measurement and data transmission of grinding wheel sets
- Marginal programming requirements for the manufacture of metal cutting tools
- Complete documentation with automatically generated and saved test reports

Data flow
Physical tool transport

Ultimate Precision Entirely Automatically– ZOLLER »roboSet«

The automation solution from ZOLLER is ideal for companies with high volumes of tool usage: »roboSet« loads your »threadCheck« automatically, right around the clock. Tool batches and tool pallets are processed in a fully automatic manner with guaranteed conditions of 100% monitoring.

ZOLLER »roboSet« can feed »threadCheck« and any other CNC-controlled ZOLLER measuring machine with shank tools, as long the machine is equipped with automatic power clamping and »pilot 3.0«. Operation is remarkably easy: push the »pilot 3.0« start button and the automatic sequence begins. Every time a part is placed in chucks, a path correction of the robot is recorded and enables »roboSet« to provide great process reliability. The measuring machine is mechanically disconnected from the »roboSet« and offers ultimate standards of measuring precision. Optionally, the system can be equipped with »roboClean« for automatic cleaning of the tools, and with »roboMark« for automatic inscription after the measuring process.

With the pallet view and status display in »pilot 3.0«, you are equipped quickly and easily for every requirement – as though created for fully-automatic CNC-controlled measuring operations on »threadCheck«.

Online status display: an up-to-the-minute view of the current machining status right around the clock.

Technical Data	Range	Positioning Accuracy	Maximum Load	Number of Pallets
»roboSet«	920 mm	±0.03 mm	7 kg without gripper	8 pieces

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

ZOLLER service

Faster, more flexible, more operationally reliable – your goal is to achieve maximum efficiency in your production operations. Our goal is to help you with this by providing well-conceived system solutions. We also provide comprehensive service and support that may involve an on-site consultation or development of made-to-measure solutions to suit individual requirements. Choosing ZOLLER means choosing superlative products and unique manufacturing expertise. Needless to say, you have access at all times to experts that will answer your questions – for the entire lifetime of your ZOLLER products. Use ZOLLER know-how to optimize your production operations.

Alexander Zoller | Christoph Zoller

ZOLLER Solutions

From us, you get more than superior products. You obtain individual system solutions for every aspect of your tools. To achieve this for you, we combine hardware, software, and service support. All from a single source. All for your success. We call that ZOLLER Solutions.

At Home in Germany – at Your Call Worldwide

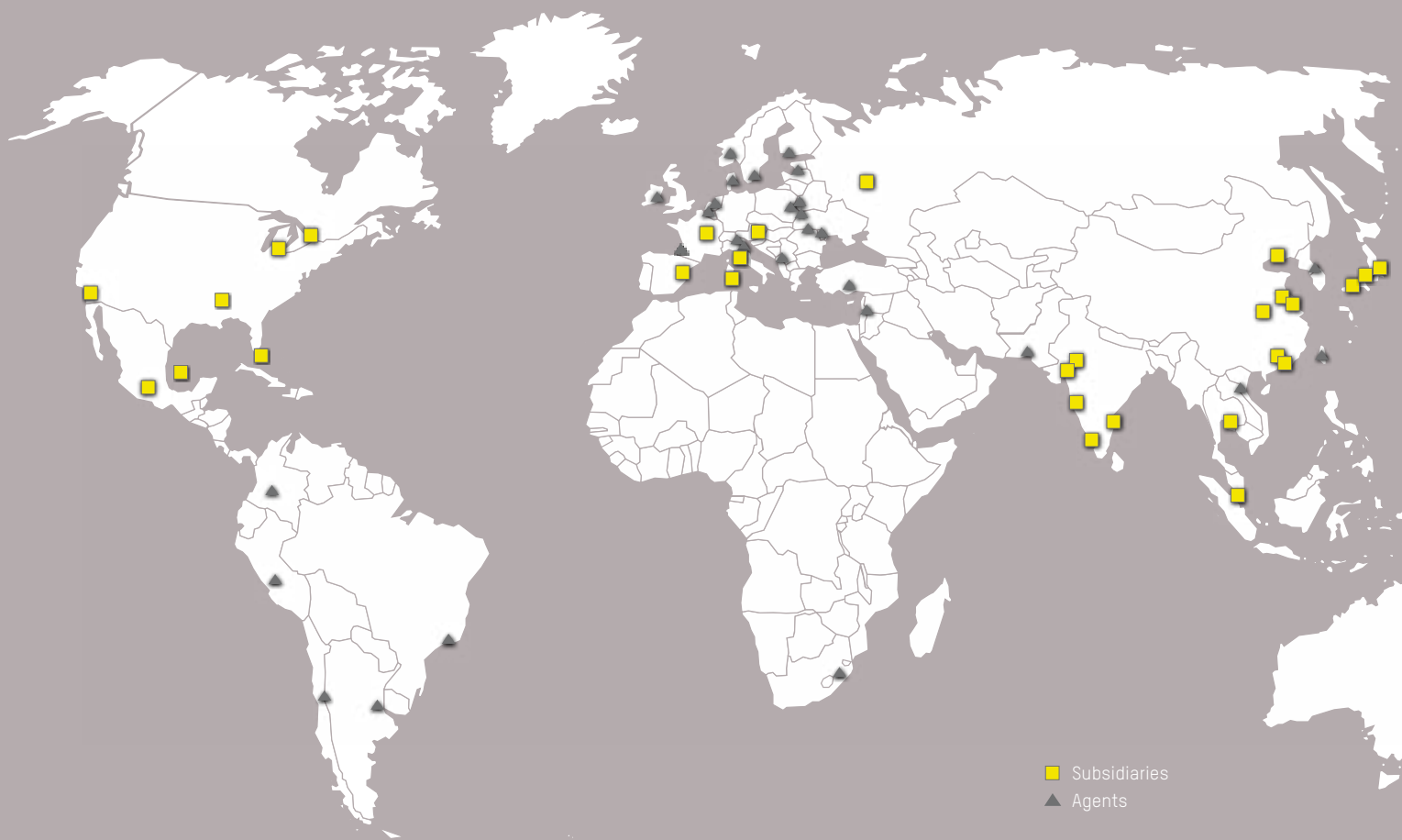
UNITED STATES

ZOLLER Inc. North America
Headquarter
3753 Plaza Drive
USA-48108 Ann Arbor, MI
Tel: +1 734 332 4851
Fax: +1 734 332 4852

ZOLLER Inc. Pacific
3882 Del Amo Blvd., Suite 603
USA-90503 Torrance, CA
Tel: +1 424 247 0180
Fax: +1 424 247 0184

ZOLLER Inc./Southeast Office
Partners in THINC Facility
12428 Sam Neely Road
USA-28278 Charlotte, NC
Tel: +1 734 332 4851
Fax: +1 734 332 4852

sales@zoller-usa.com | www.zoller-usa.com



NORTH AMERICA

CANADA
ZOLLER Canada
5659 McAdam Road, Unit A2
CAN-L4Z 1N9 Mississauga, ON
Tel: +1 905 712 0100
Fax: +1 905 712 1623
sales@zoller-usa.com | www.zoller-usa.com

MEXICO
ZOLLER Mexico
Calle 53, LT-24, C-21
Bosques de la Hacienda
MEX-C.P. 54715 Cuautitlan Izcalli
Estado de México
Tel: +52 55 5817 4654
Fax: +52 55 5817 4565
sales@zoller-usa.com | www.zoller-usa.com

GERMANY

HEAD OFFICE
E. Zoller GmbH & Co. KG
Tool Presetters and Measuring Machines
Gottlieb-Daimler-Strasse 19
D-74385 Pleidelsheim
Tel: +49 7144 8970-0
Fax +49 7144 8060807
post@zoller.info | www.zoller.info

ZOLLER NORTH
E. Zoller GmbH & Co. KG
Service & Sales Center
Wohlenbergstrasse 4 c
D-30179 Hanover
Tel: +49 511 676557-0
Fax: +49 511 676557-14
zollernord@zoller-d.com | www.zoller.info

AGENTS

Belarus, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, Hungary, Ireland, Israel, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Southern Tyrol, Sweden, Switzerland, Turkey, UK, Ukraine, Argentina, Brazil, Chile, Colombia, Peru, South Africa, Australia, Korea, Pakistan, Taiwan, Vietnam



EUROPE

AUSTRIA
ZOLLER Austria GmbH
Tool presetters and measuring machines
Haydnstraße 2
A-4910 Ried im Innkreis
Tel: +43 7752 87725-0
Fax: +43 7752 87726
office@zoller-a.at | www.zolller-a.at

FRANCE
ZOLLER S. à. r. l.
11, rue du Tanin
F-67380 Lingolsheim
Tel: +33 3 8878 5959
Fax: +33 3 8878 0004
info@zoller.fr | www.zoller.fr

SPAIN + PORTUGAL
ZOLLER Ibérica S.L.
Balmes 186 2º 1ª
E-08006 Barcelona
Tel: +34 932 156 702
Fax: +34 935 198 014
correo@zoller.info | www.zoller.info

RUSSIA
LLC ZOLLER Russia
Chaussee Entuziastov,
56 build.32
RU-111123 Moscow, Russia
Tel: +7 495 22140-58
Fax: +7 495 22140-91
info@zoller-ru.com | www.zoller-ru.com

OVERSEAS

INDIA
ZOLLER India Private Ltd.
Plot No. RM 104, 'G' Block
Sanjeevani Complex, Shahu Nagar,
Near KSB Chowk, Chinchwad,
Pune 411019 Maharashtra, India
Tel: +91 20 2749 6118
Fax: +91 20 2749 6114
info@zoller-in.com | www.zoller-in.com

CHINA
ZOLLER Shanghai, Ltd.
Asia Pacific Regional Headquarter
No. 1588 ZhuanXing Road
Xin Zhuang Industry Park
Min Hang District
RC-201108 Shanghai
Tel: +86 21 3407 3978
Fax: +86 21 6442 2622
info@zoller-cn.com | www.zoller-cn.com

HONG KONG
ZOLLER Asia Pacific, Ltd.
10A Seapower Industrial Centre
177 Hoi Bun Road, Kwun Tong
RC-Kowloon, Hong Kong
Tel: +86 21 3407 3978
Fax: +86 21 6442 2622
info@zoller-cn.com | www.zoller-cn.com

JAPAN
ZOLLER Japan K. K.
5-14, Kawagisi-Cho,
Suita-Shi
JP-564-0037 Osaka, Japan
Tel: +81 6 6170 2355
Fax: +81 6 6381 1310
info@zoller-jp.com | www.zoller-jp.com

THAILAND
ZOLLER Singapore Pte. Ltd.
65/26 Moo 4 Don Hua Roh
Muangchonburi Chonburi
TH-20000 Thailand
Tel: +66 38149756
Fax: +66 38149757
info@zoller-in.com | www.zoller-in.com

INDONESIA
ZOLLER Singapore Pte. Ltd
(Indonesia Representative Office)
Alam Sutera Town Centre Block 10 C No. 15,
Jl. Boulevard Alam Sutera
ID-Serpong – Tangerang 15325, Indonesia
Tel: +62 29211 445
Fax: +62 29211 445
info@zoller-in.com | www.zoller-in.com

ZOLLER solutions

PRESETTING SOLUTIONS
presetting & measuring

SOFTWARE SOLUTIONS
managing tools

INSPECTION SOLUTIONS
inspection & measuring

BUSINESS SOLUTIONS
from A-Z

ZOLLER Solutions are synonymous with comprehensive optimization of your manufacturing operations. ZOLLER combines hardware, software and services to customized system solutions to improve quality, efficiency and productivity. As a ZOLLER customer you benefit not only from our know-how as market leader in the field of tool measurement technology, but equally from our claim as a family-run business, guaranteeing you sustainable competitive advantages and thus making a measurable contribution to your success.

www.zoller-usa.com

ZOLLER Inc.
3753 Plaza Drive | Ann Arbor, MI 48108 USA
Tel: +1 734 332-4851 | Fax: +1 734 332-4852
sales@zoller-usa.com | service@zoller-usa.com