

Universal Inspection and Measuring Technology  
for Process-Oriented Tool Inspection

**ZOLLER**  
expect great measures

# smartCheck



# We Stand for Smart Progress

## ECONOMICS

Are you looking for a powerful universal inspection and measuring device for your cutting tools? ZOLLER offers its customers various solutions for checking tools in the most economical way before and after sharpening – unbeatable, indispensable and 100% convincing.

Experience great measuring performance at a good price: With ZOLLER »smartCheck« you can inspect and measure your tools and grinding wheels right next to the machine. Even when inspecting your tools before the resharpener process, you can achieve a high-precision quality check. In this way, you avoid unnecessary stock removal during resharpener and produce economically. Whether as a manual basic version or as a CNC version for fully automatic measuring processes, ZOLLER always offers you absolute top performance for your tool inspection – make your choice and benefit!

Compact measuring technology

Universal quality control

Certified safety



# Tool Quality – Process-Oriented and Precise

ZOLLER »smileCheck« is impressive not only because of its convenient operating concept, but primarily because of its compactness – that is how it ensures reliable processes and more speed in your production. Tool parameters, geometry data and cutting contours can be recorded both radially and axially. »smileCheck« also enables you to prepare your grinding wheel packs quickly and precisely.



»smileCheck«



ZOLLER – accredited calibration laboratory  
according to DIN EN ISO/IEC 17025:2018



Certified  
safety



Quality Management/Environmental Management  
according to ISO 9001, VDA 6.4 and ISO 14001

The device series »smartCheck 450/600/800« from ZOLLER offers you comprehensive tool inspection: State-of-the-art technologies paired with outstanding ease of use ensure efficient process sequences in your production. The wide variance of measuring ranges and the variable equipment make a »smartCheck« an all-rounder for your demanding range of tools. You can rely on precise measurement data as a guarantee for the reliable quality of your products.



»smartCheck 450/600/800«

# We Stand for Passionated Precision

## TECHNOLOGY

A »smartCheck« from ZOLLER is easy to handle and impresses across the board. The basic version alone is already equipped with a wide range of features and can be flexibly expanded at any time with software packages:

Every ZOLLER machine is a promise – to our customers. Because ZOLLER presetting, measuring and inspection machines are ideal for day-to-day use in any production environment and have truly earned their rightful place right next to the CNC machine. The transmitted and incident light optics support your measuring processes right through to checking in the resharpening process – so you always ensure the precise quality of your tools throughout the entire production process.

Production at premium level

Functional design

Maximal operating comfort

The careful assembly of high-quality brand components ensures a long service life for your ZOLLER machine: At ZOLLER, we do everything we can to ensure unbeatable high-precision over the long term.

### STEFAN KAHN

Part of the ZOLLER assembly team

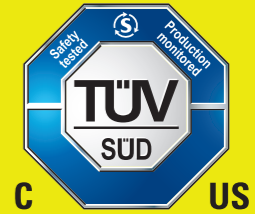


# Compact Base Model

## »smileCheck« TÜV and UL/CSA Approved

Every »smileCheck« is certified according to international standard IEC/EN 61010-1 and cNRTLus.

Proven and certified safety.



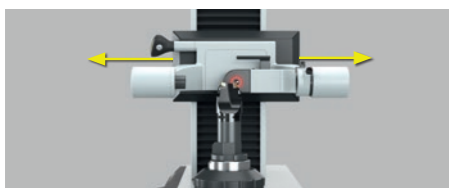
**Ergonomic one-hand control handle »eQ« (ergonomic & quick)** – to easily move the optics carrier to the correct position in the Z and X axes. The button with the Solutions symbol can be individually configured with additional practical functions, making operation even easier and more convenient.

**Z-, X-axis manual/CNC** – the high-precision and smooth-running linear axes are used for fast and fine positioning of the measuring optics to the tool cutting edge. Whether manually for spot checks using the one-hand control handle »eQ« or CNC-controlled for fully automatic processes, these allow the measurement to be carried out safely, quickly and conveniently.

**Manual fine adjustment** – the alternative to CNC control. The ergonomic handwheels for additional manual fine adjustment of the Z and X axes are particularly suitable for the tool inspection module.



**Y-axis** – the optional, CNC-controlled linear axis for measuring off-center cutting edges on turning or multifunctional tools.



**Practical storage board** – holds adapter tool posts, adapters, tools and intermediate sleeves.



**Tool inspection with manually swivelling incident light camera** – for radial and axial inspection and measurement tasks. The integrated LED ring light with adjustable light intensity ensures optimum illumination of the surface. The clamping and locking device as well as the swivel range of  $-30^{\circ}$  to  $90^{\circ}$  ensure an ideal perspective for the respective measuring point.



**Software »pilot 4.0«** – is self-explanatory, clearly laid out and enables the operator to take reliable measurements. It offers a uniform user interface on all ZOLLER systems – right up to ZOLLER TMS Tool Management Solutions. The individual structure of the software allows customer-specific adaptations to be implemented quickly.

**Integrated control unit** – offers health-friendly and comfortable working. The 24" TFT color monitor can be individually adapted to the needs of each operator: The height, swivel and tilt angle can be flexibly adjusted.

**High-precision spindle SK 50** – for holding tools or adapters with interface SK 50. Adapters for reduction allow simple and precise clamping of almost any tool holding system. The optional CNC drive with autofocus and precise angle measuring system offers automatic focusing of the tool cutting edge and recording of the die contour.

**Label printer** – for printing the measurement results or DataMatrix codes on adhesive paper or thermal labels.

**Stable table** – the base of the device: Electronics and pneumatic elements are stored here in an industrial and service-friendly manner, all neatly laid out with sufficient space for good accessibility and optimum ventilation.

# Inspection at Premium Level

## »smartCheck 450« TÜV and UL/CSA Approved

Every »smartCheck 450« is certified according to international standard IEC/EN 61010-1 and cNRTLus.

Proven and certified safety.



**Ergonomic one-hand control handle »eQ« (ergonomic S quick)** – to easily move the optics carrier to the correct position in the Z and X axes. The button with the Solutions symbol can be individually configured with additional practical functions, making operation even easier and more convenient.

**Z-, X-axis manual/CNC** – the high-precision and smooth-running linear axes are used for fast and fine positioning of the measuring optics to the tool cutting edge. Whether manually for spot checks using the one-hand control handle »eQ« or CNC-controlled for fully automatic processes, these allow the measurement to be carried out safely, quickly and conveniently.

**Manual fine adjustment** – the alternative to CNC control. The ergonomic handwheels for additional manual fine adjustment of the Z and X axes are particularly suitable for the tool inspection module.



**Y-axis** – the optional, CNC-controlled linear axis for measuring off-center cutting edges on turning or multifunctional tools.



**Practical storage board** – holds adapter tool posts, adapters, tools and intermediate sleeves.

**Stable table** – the base of the device: Electronics and pneumatic elements are stored here in an industrial and service-friendly manner, all neatly laid out with sufficient space for good accessibility and optimum ventilation.

**Tool inspection with manually swivelling incident light camera** – for radial and axial inspection and measuring tasks. The integrated LED ring light with adjustable light intensity ensures optimum illumination of the surface. The clamping and locking device as well as the swivel range of  $-30^\circ$  to  $90^\circ$  ensure an ideal perspective for the respective measuring point.



**Software »pilot 4.0«** – is self-explanatory, clearly laid out and enables the operator to take reliable measurements. It offers a uniform user interface on all ZOLLER systems – right up to ZOLLER TMS Tool Management Solutions. The individual structure of the software allows customer-specific adaptations to be implemented quickly.

**Separate control unit »cockpit«** – offers space for keyboard and mouse as well as shelves for label and laser printers, scanners and tools. The height and angle of the 24" TFT color monitor can be adjusted to make using the software as comfortable as possible. This means that every operator can set up the workstation individually in just a few simple steps.

**High-precision spindle »ace«** – guarantees  $\mu\text{m}$ -accurate clamping of tools and holders of all kinds. Adaptation to many tool holder systems is guaranteed by the universal adapter tool post changing system. The optional CNC drive with autofocus and precise angle measuring system offers automatic focusing of the tool cutting edge and recording of the cutting contour.



# Top Model for the Highest Demands

## »smartCheck 600/800« TÜV and UL/CSA Approved

Every »smartCheck 600/800« is certified according to international standard IEC/EN 61010-1 and cNRTLus.

Proven and certified safety.



**Ergonomic one-hand control handle »eQ« (ergonomic & quick)** – to easily move the optics carrier to the correct position in the Z and X axes. The button with the Solutions symbol can be individually configured with additional practical functions, making operation even easier and more convenient.

**Z-, X-axis manual/CNC** – the high-precision and smooth-running linear axes are used for fast and fine positioning of the measuring optics to the tool cutting edge. Whether manually for spot checks using the one-hand control handle »eQ« or CNC-controlled for fully automatic processes, these allow the measurement to be carried out safely, quickly and conveniently.

**Manual fine adjustment** – the alternative to CNC control. The ergonomic handwheels for additional manual fine adjustment of the Z and X axes are particularly suitable for the tool inspection module.



**Y-axis** – the optional, CNC-controlled linear axis for measuring off-center cutting edges on turning or multifunctional tools.



**Practical storage board** – holds adapter tool posts, adapters, tools and intermediate sleeves.

**Stable table** – the base of the device: This is where the computer, electronics and pneumatic elements are stored in an industrial and service-friendly manner, all neatly laid out with sufficient space for good accessibility and optimum ventilation.

**Swivelling optics carrier** – the optional CNC-controlled swivelling device of the transmitted light optics with a swivel range of  $-30^{\circ}$  to  $30^{\circ}$  for distortion-free measurement of tool contours with a slope.

**Tool inspection with manually swivelling incident light camera** – for radial and axial inspection and measuring tasks. Integrated multi-LED ring light segmented into eight areas with adjustable light intensity ensures optimum illumination of the surface. The clamping and locking device as well as the swivel range of  $-30^{\circ}$  to  $90^{\circ}$  ensure an ideal perspective for the respective measuring point.



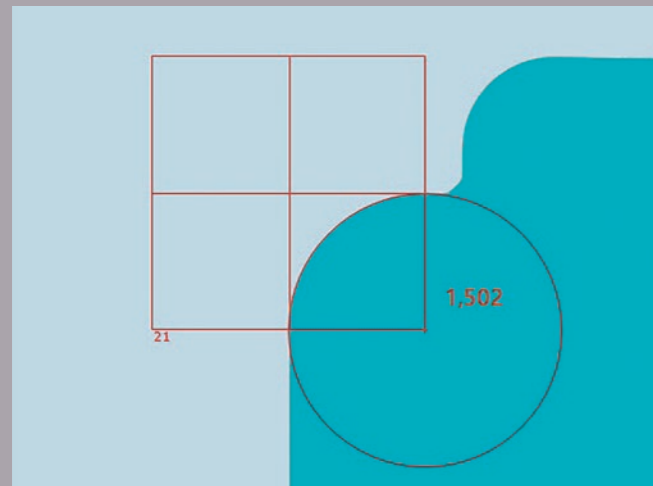
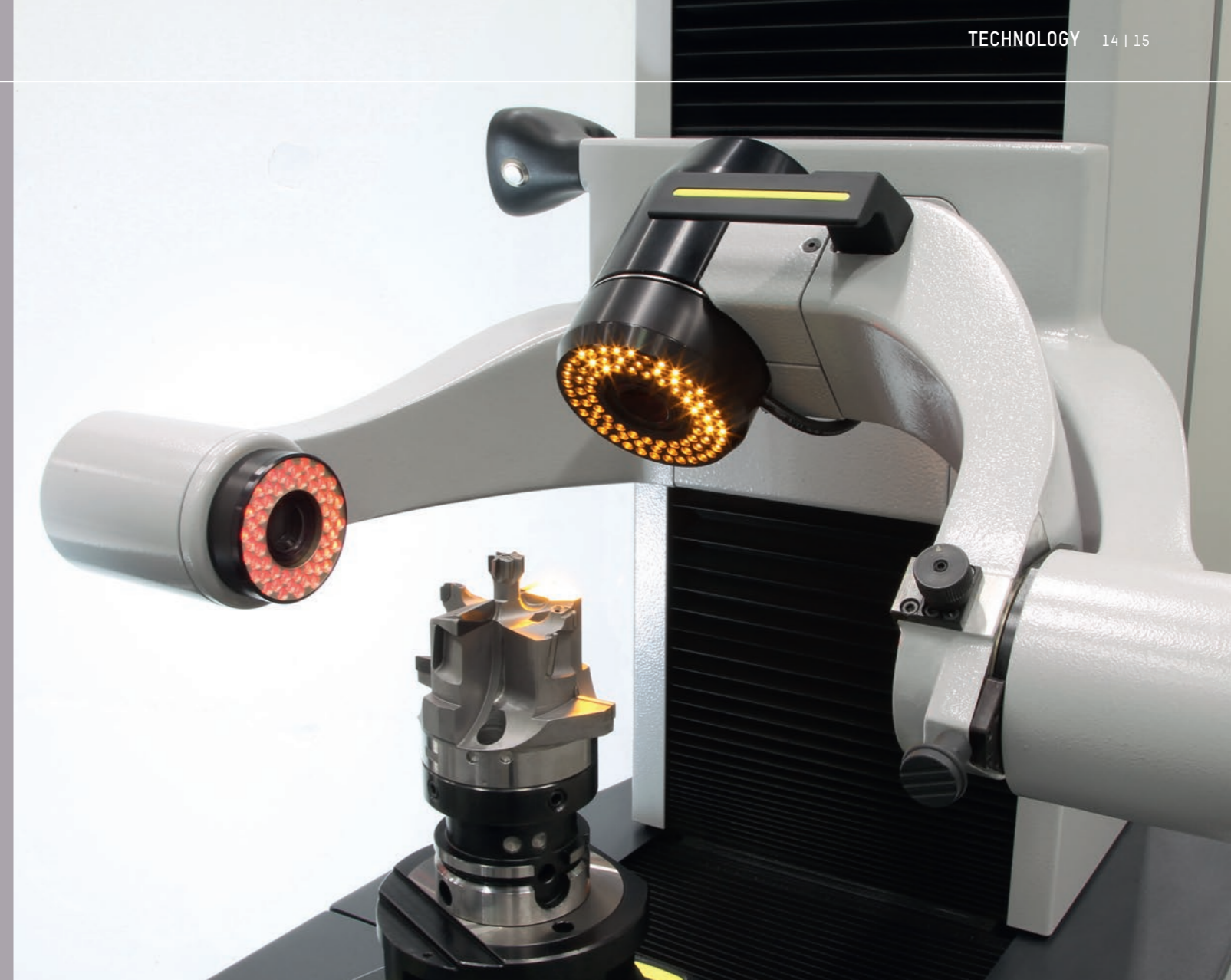
**Software »pilot 4.0«** – is self-explanatory, clearly laid out and enables the operator to take reliable measurements. It offers a uniform user interface on all ZOLLER systems – right up to ZOLLER TMS Tool Management Solutions. The individual structure of the software allows customer-specific adaptations to be implemented quickly.

**Separate control unit »cockpit«** – offers space for keyboard and mouse as well as shelves for label and laser printers, scanners and tools. The height and angle of the 24" TFT color monitor can be adjusted to make using the software as comfortable as possible. This means that every operator can set up the workstation individually in just a few simple steps.

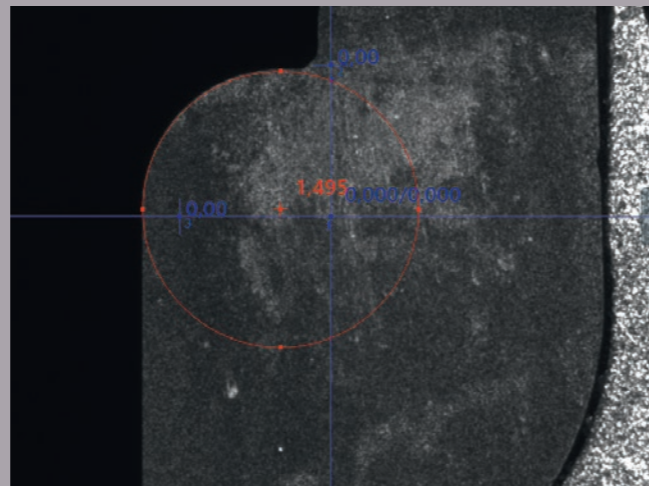
**High-precision spindle »ace«** – guarantees  $\mu\text{m}$ -accurate clamping of tools and holders of all kinds. Adaptation to many tool holder systems is guaranteed by the universal adapter tool post changing system. The optional CNC drive with autofocus and precise angle measuring system offers automatic focusing of the tool cutting edge and recording of the cutting contour.

# High-Precision Optics for Tool Inspection

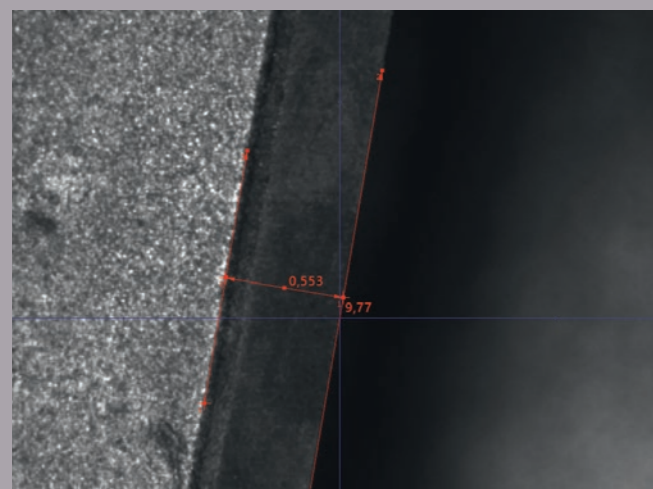
The ZOLLER device series »smileCheck« and »smartCheck« with high-quality, industry-standard optics: for example, cutting edge radii, angles, lengths, diameters, etc. can be measured automatically and with  $\mu\text{m}$ -accuracy on the outer contour of the tools using transmitted light. Stored measurement sequences are carried out fully automatically at the touch of a button (CNC version). In incident light, manual measurements can be carried out in the chip space, on the circumference and on the face. The cutting edge detection supports operator-independent measurements. Your incident light measurements are automated using innovative software packages. The high-resolution cutting edge images are also ideal for your documentation.



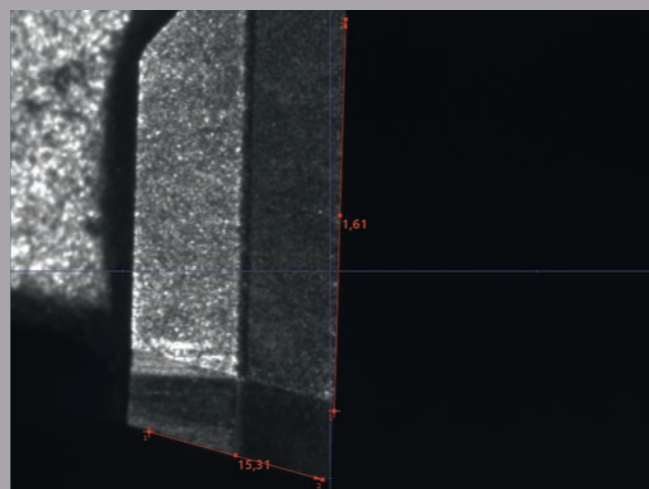
Transmitted light measurement on the circumference



Contour measurement in the chip space



Incident light measurement on the circumference



Incident light measurement on the face

Sensors configuration	»smileCheck«	»smartCheck 450«	»smartCheck 600«
<b>Optics transmitted light</b>			
Transmitted light camera HR50, BF approx. 7.3 x 6.7 mm <sup>2</sup>	●	●	●
Transmitted light camera HR50 1:1, BF approx. 4.0 x 3.6 mm <sup>2</sup>	-	⊙	⊙
Transmitted light camera HR70 1:1, BF approx. 4.0 x 3.6 mm <sup>2</sup>	⊙	⊙	⊙
Transmitted light camera 5 Mpx, BF approx. 4.4 x 4.0 mm <sup>2</sup>	-	⊙	⊙
Transmitted light camera WF, BF approx. 15.5 x 14.1 mm <sup>2</sup>	-	-	⊙
<b>Optics incident light for tool inspection</b>			
Incident light camera, BF approx. 7.1 x 6.5 mm <sup>2</sup>	●	●	-
Incident light camera, BF approx. 4.4 x 4.0 mm <sup>2</sup>	-	-	●
<b>Tool inspection</b>			
Indexable 0° and 90°, infinitely variable clamping	●	●	●
Swivel range -30° to 90°	●	●	●
Multi-LED incident light 8-fold segmentable	-	-	●

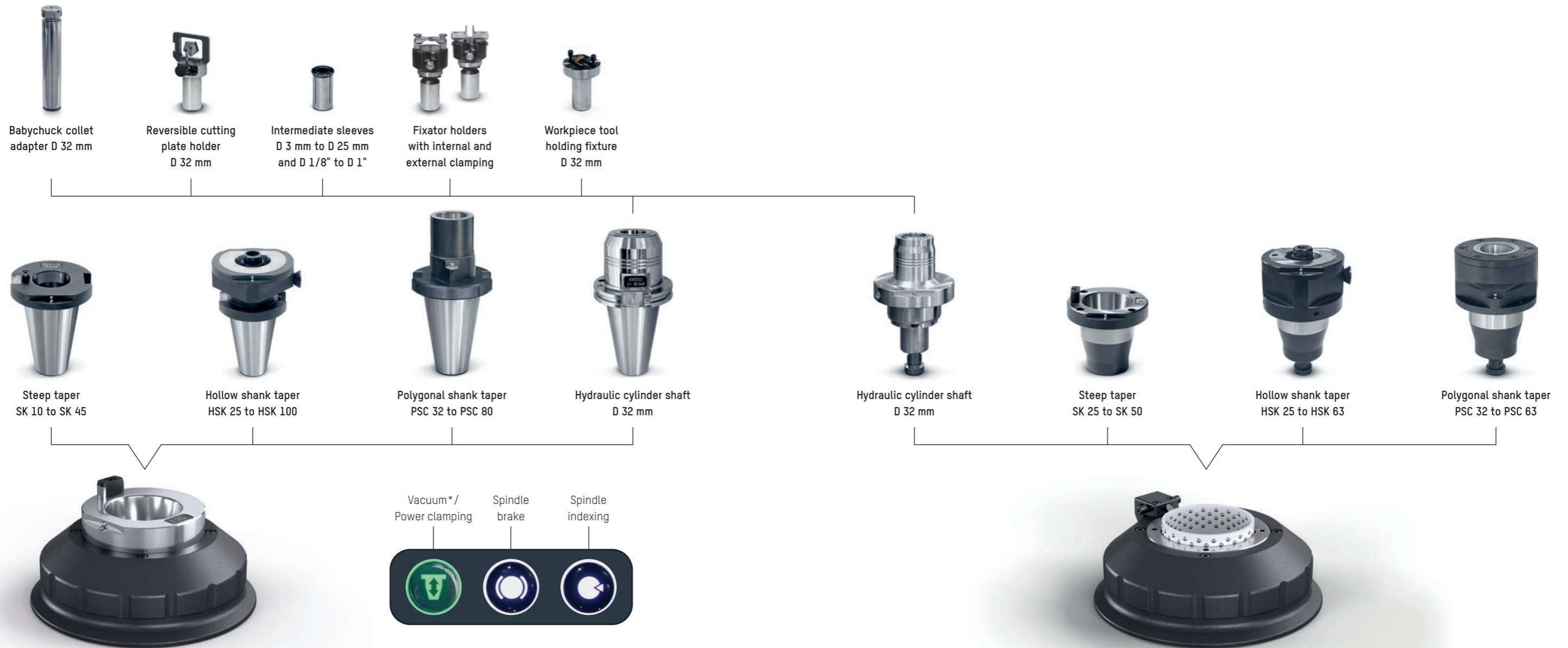
● Base model   ⊙ optional   - not possible



# Spindle Technology for your »smileCheck«

## Advantages of the ZOLLER high-precision spindles

- Clamp everything. Measure everything. Accelerate everything.
- Fast, µm-accurate changeover
- Universal for all tool holders



### High-precision spindle SK 50 – with optional vacuum clamping

- High axial and radial run-out accuracy – better than 2 µm
- Ergonomic spindle handwheel – for safe rotation of the spindle and precise focusing of the tool cutting edge
- Pneumatic spindle brake and indexing – for fixing the spindle in the desired position
- Quick adapter change – in a maximum of 10 seconds
- Integrated calibration spheres on the spindle and adapters – for simple, quick and precise determination of the spindle zero point

### High-precision spindle »pcs« – with power clamping and quick-change system

- Power-operated tool clamping – constant, independent of the user
- High axial and radial run-out accuracy – better than 2 µm
- Ergonomic spindle handwheel – for safe rotation of the spindle and precise focusing of the tool cutting edge
- Pneumatic spindle brake and indexing – for fixing the spindle in the desired position
- High changing accuracy of adapter tool posts – better than 1 µm
- Quick adapter tool post change – in less than 10 seconds
- Integrated calibration spheres on adapter tool posts – for simple, fast and precise determination of the spindle zero point

\*optional

# Spindle Technology for your »smartCheck«

## Advantages of the ZOLLER high-precision spindles

- Clamp everything. Measure everything. Accelerate everything.
- Fast,  $\mu\text{m}$ -accurate changeover
- Universal for all tool holders



Hollow shank taper  
HSK 25 to HSK 125



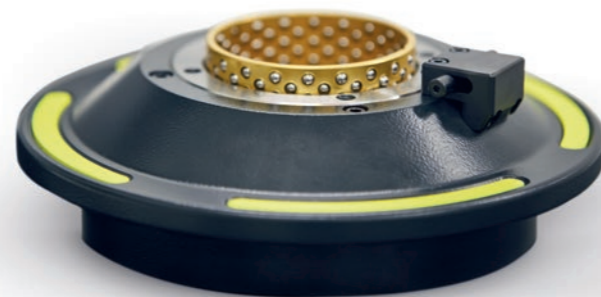
Steep taper  
SK 25 to SK 60



Polygonal shank taper  
PSC 32 to PSC 100



Hydraulic cylinder shaft  
D 32 mm



## High-precision spindle »ace« – with power clamping and quick-change system

Power-operated tool clamping – constant, independent of the user

High axial and radial run-out accuracy – better than  $2 \mu\text{m}$

Ergonomic spindle handwheel – for safe rotation of the spindle and precise focusing of the tool cutting edge

Pneumatic spindle brake and indexing – for fixing the spindle in the desired position

High changing accuracy of adapter tool posts – better than  $1 \mu\text{m}$

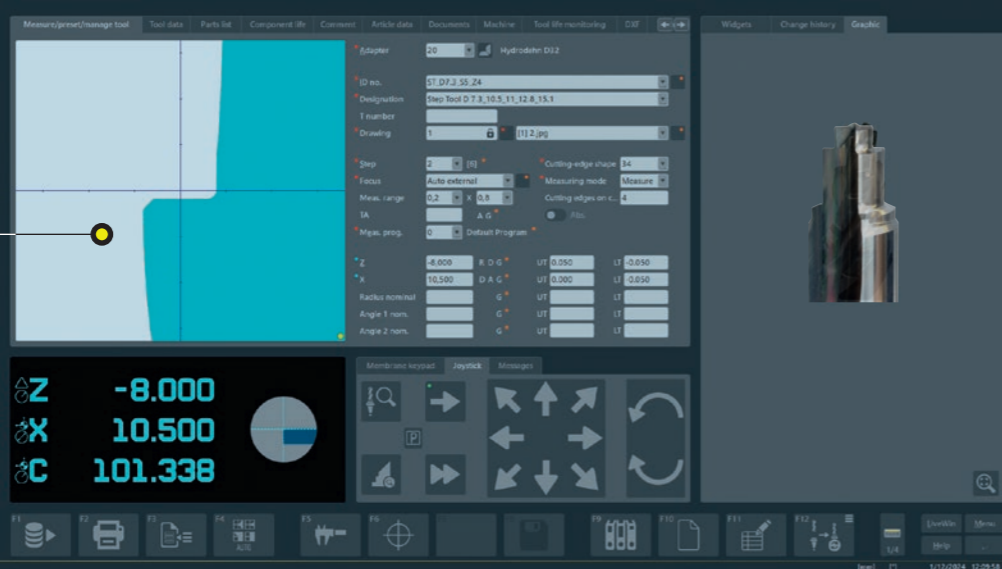
Quick adapter tool post change – in less than 10 seconds

Integrated calibration spheres on adapter tool posts – for simple, quick and precise determination of the spindle zero point


Automatic zero point selection – automatic detection and calibration of the adapter tool post used

# Intuitive and Intelligent – Software »pilot 4.0«

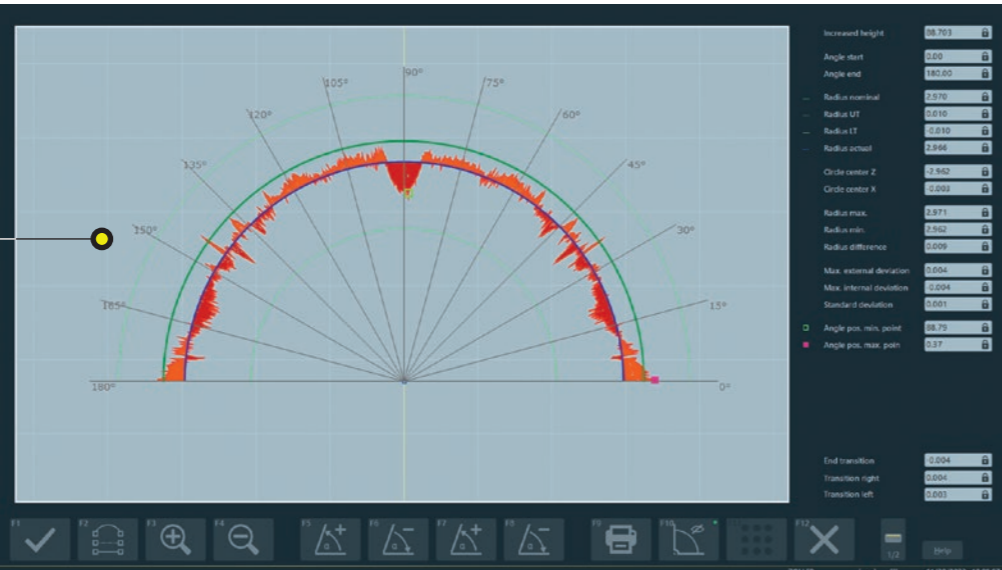
»pilot 4.0« has established itself as a powerful and comprehensive software solution for all ZOLLER presetting, measuring and inspection machines. The intuitive, graphical user interface guides the user quickly and reliably to precise measurement results. Thanks to »pilot 4.0« even complex measuring tasks can be completed at the first attempt. At the same time, the software is so comprehensive in its functionality that there is a solution for every requirement. It is not without reason, that »pilot« is the world's unrivaled benchmark for measuring, inspecting and managing cutting tools.



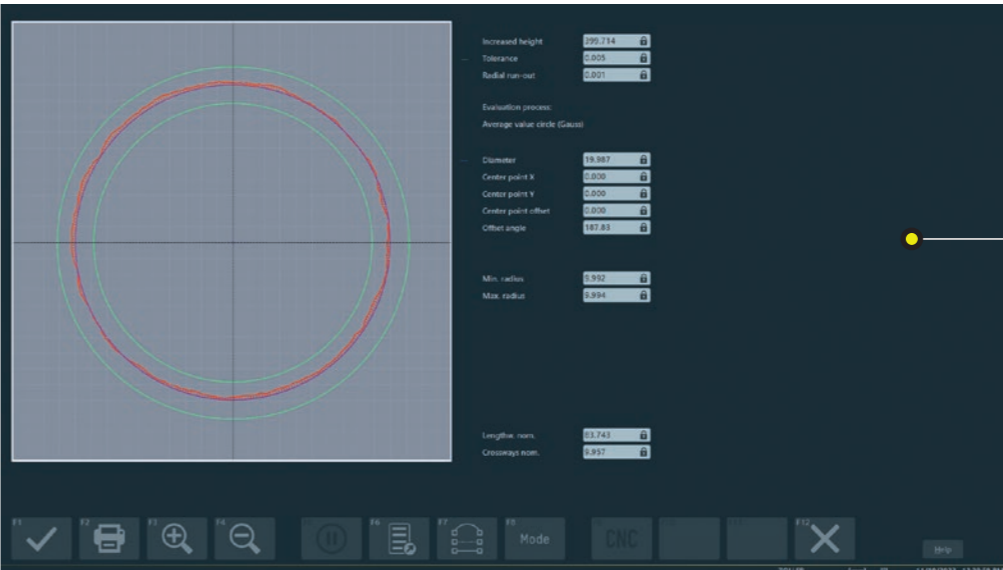
**Software »pilot 4.0«** – with graphical user interface for intuitive operation. Stored measurement sequences guarantee automatic and operator-independent inspection and measurement. In addition, automatic cutting edge shape recognition is available for random samples without the need to create data.



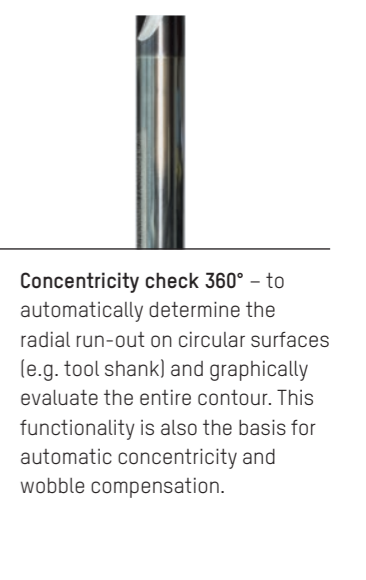
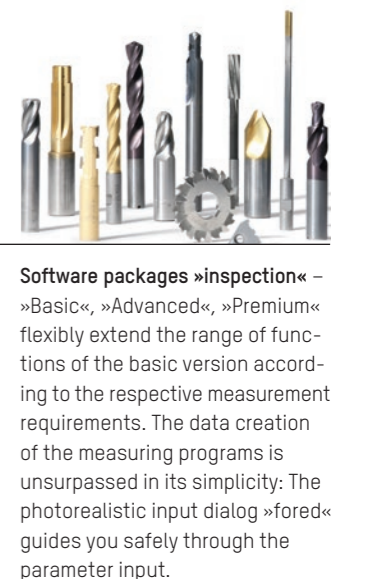
**Software packages »inspection«** – »Basic«, »Advanced«, »Premium« flexibly extend the range of functions of the basic version according to the respective measurement requirements. The data creation of the measuring programs is unsurpassed in its simplicity: The photorealistic input dialog »fored« guides you safely through the parameter input.



**Radius contour »contur« with graphics** – for automatic determination of concave and convex radii on the outer contour of tools including adjustable angle sectors with graphical evaluation.

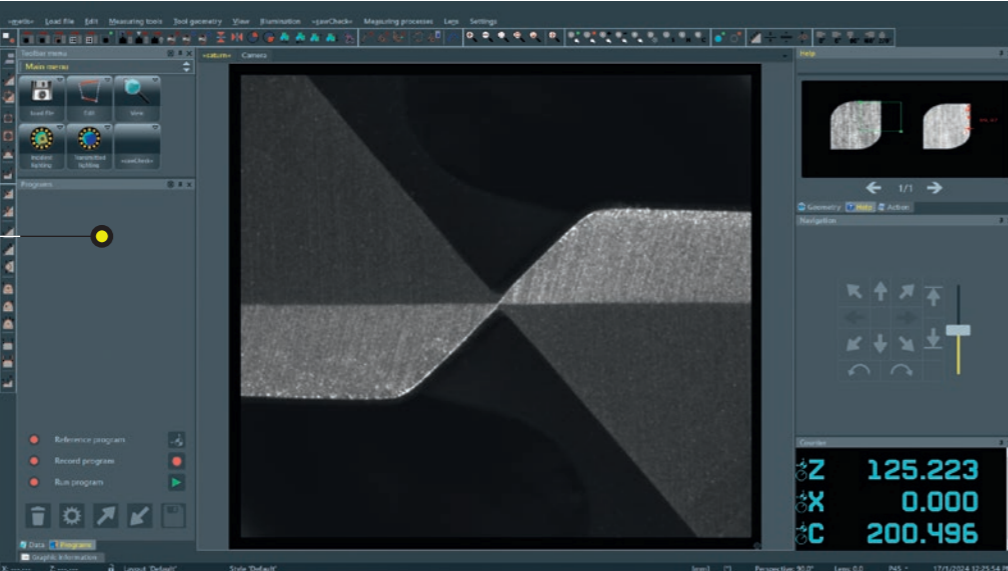


**Concentricity check 360°** – to automatically determine the radial run-out on circular surfaces (e.g. tool shank) and graphically evaluate the entire contour. This functionality is also the basis for automatic concentricity and wobble compensation.

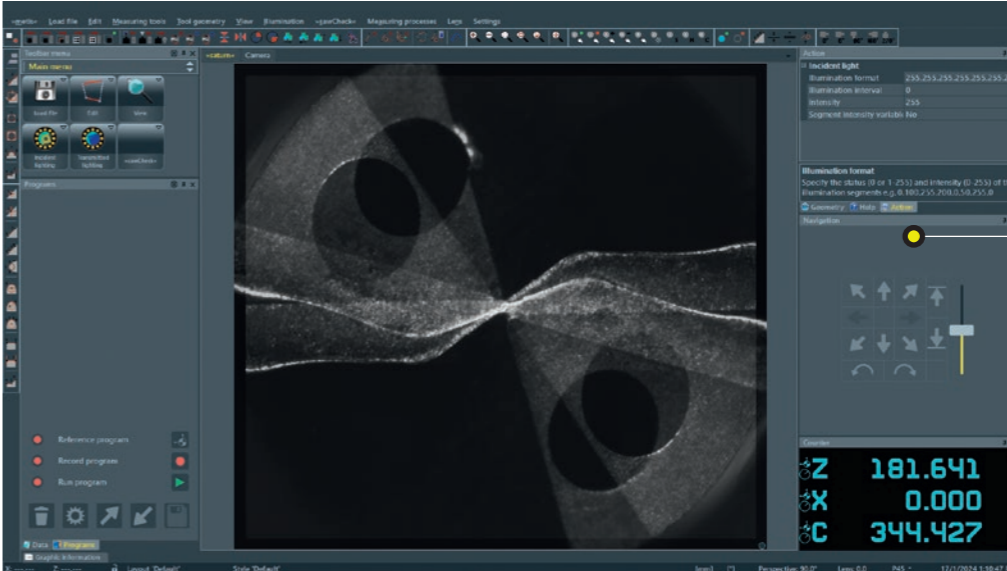


# Tool Analysis Made Easy

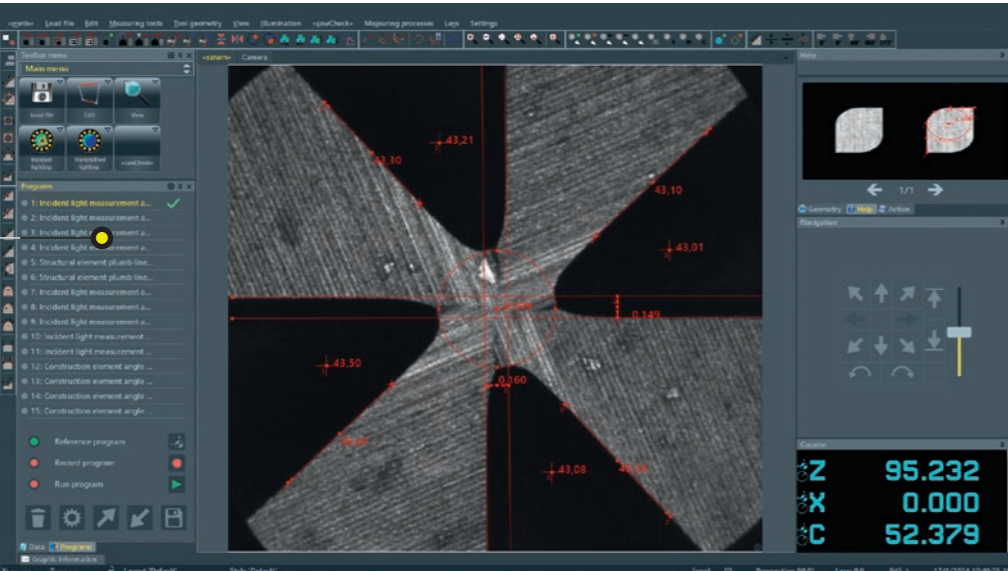
Equipped with a swivelling incident light camera, the ZOLLER device series »smileCheck« and »smartCheck« is excellent for tool inspection. Tool parameters, geometry data and cutting edge contours are recorded both radially and axially, making tool analysis universal, quick and easy.



**Tool analysis »metis«** – measures and documents any contours, radii, angles, distances and defects (wear) in incident light.



**Tool analysis »metis«** – The display of a transparent reference image saved by the master tool at the touch of a button enables a quick visual comparison of the tool to be inspected with its nominal geometry.



**»metis«-Generator** – for creating fully automatic measurement sequences in incident and transmitted light, including the calculation of intersections, distances, angles and much more.



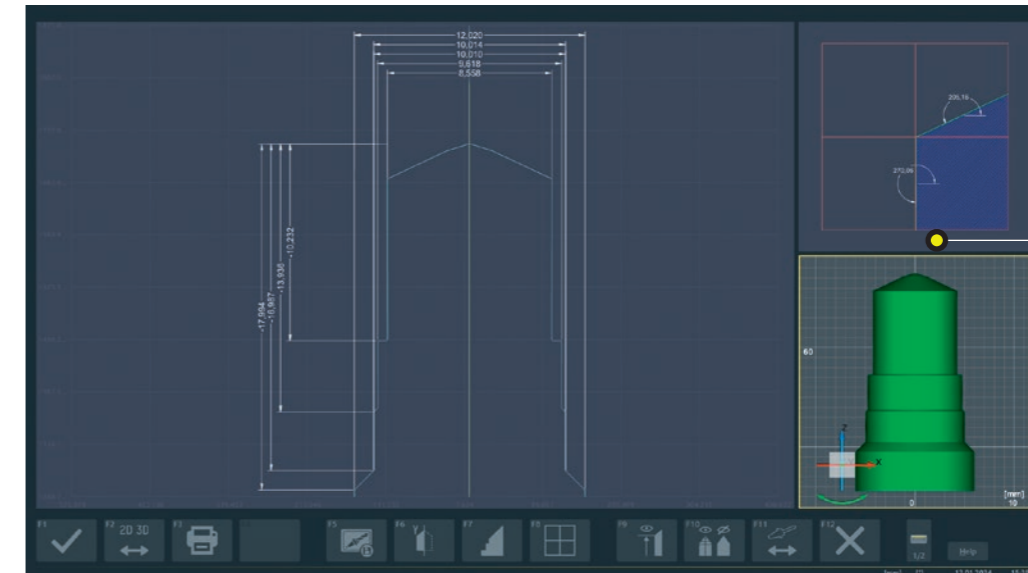
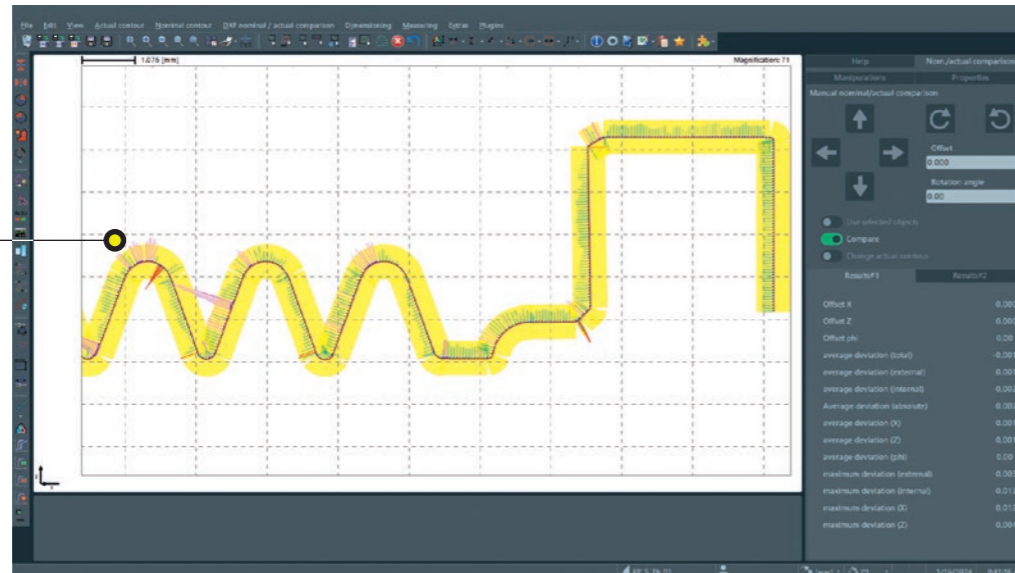
**DXF contour projection »telesto«** – display of a DXF file in incident and transmitted light as nominal contour for quick and easy comparison to the tool contour.

# Check Tool Contours in Detail

The ZOLLER software developed with and for tool manufacturers offers you solutions for the highest demands. Even complex measuring and inspection tasks are ingeniously simple to use.



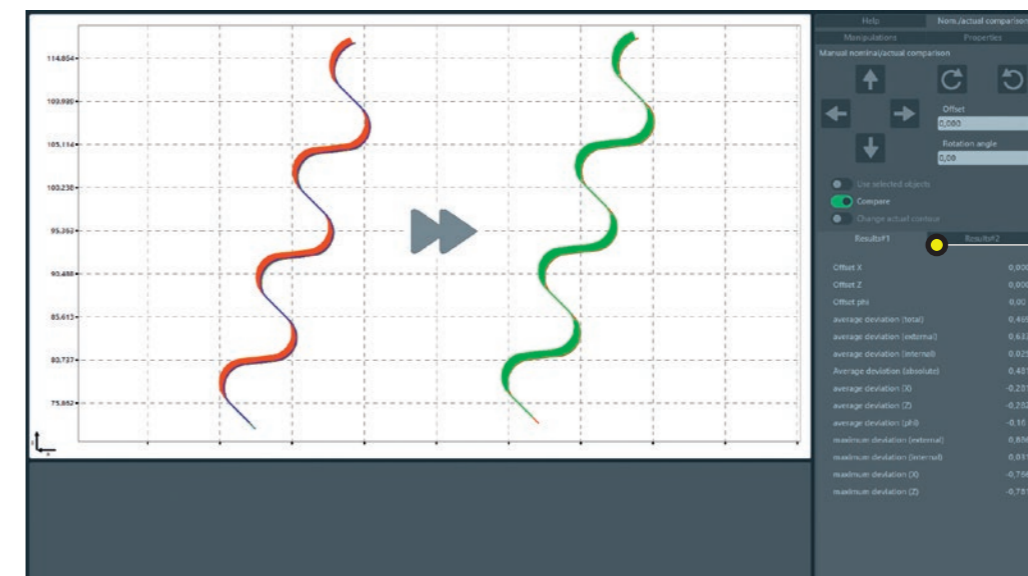
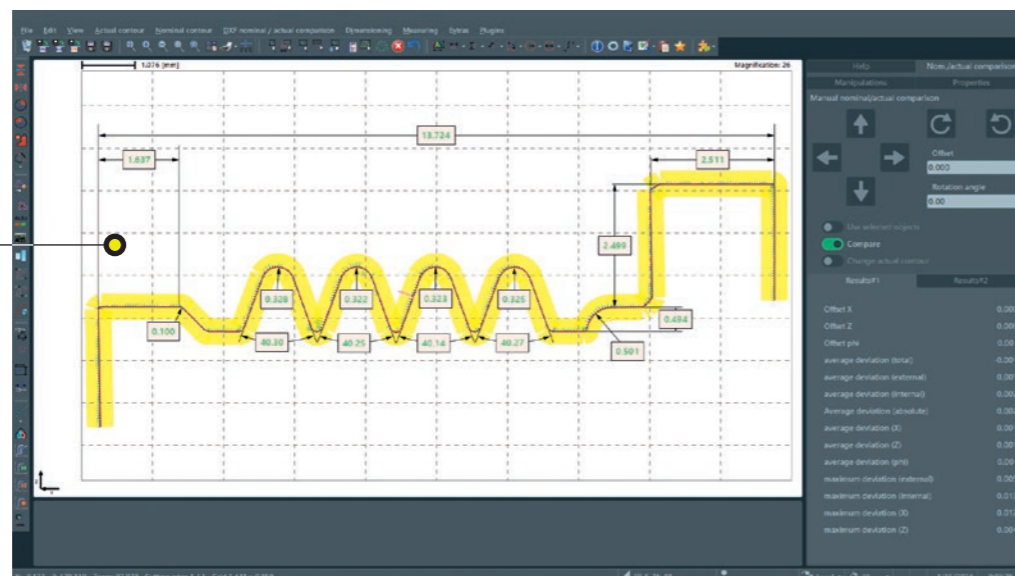
**Contour measurement »lasso«** – for scanning any tool or work-piece contours and creating a nominal/actual comparison based on a DXF nominal contour with a variable tolerance range.



**Drawing generator »sinope«** – the software automatically generates the tool drawing from the measured actual dimensions of the tool as a supplement to the tabular inspection report. The tool contour is displayed in 2D/3D with a detailed view of the measuring points.



**»lasso«-dimension system** – for creating complex dimensions of distances and contour elements in just a few steps. It allows flexible, fast and effective dimensioning of actual contours. This is done automatically when a dimensioned nominal contour is provided.



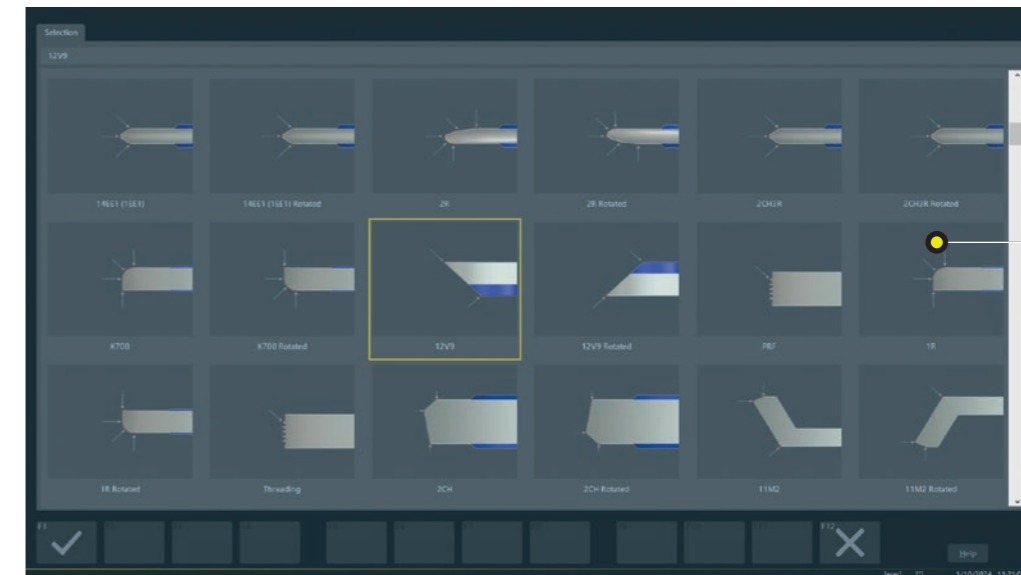
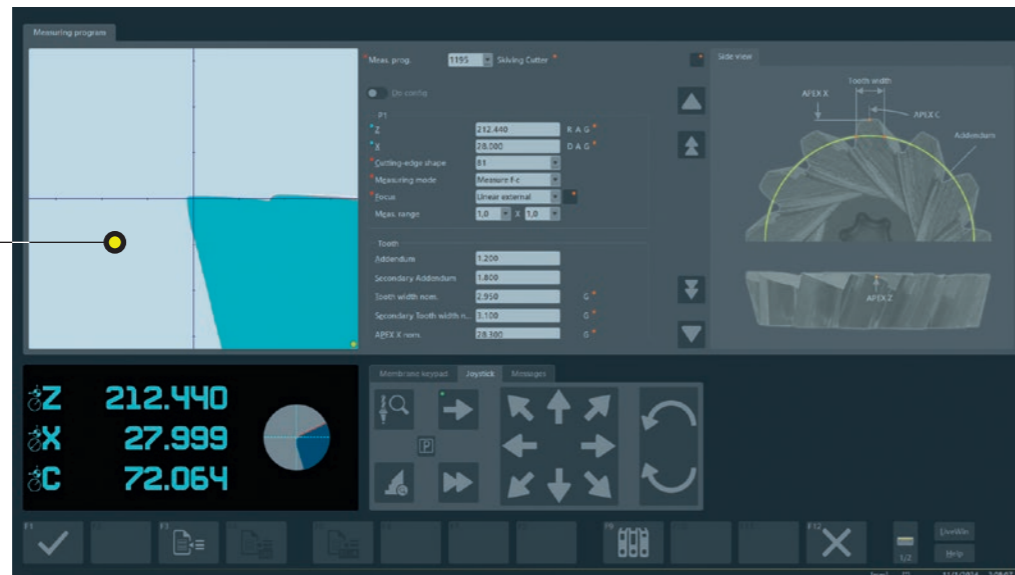
**Contour correction »coCon«** – after scanning the tool contour, the contour correction of eroded or ground mold tools is automatically calculated using the nominal DXF file. The new contour is output in DXF format.

# Perfect even in Specialties

Precision all along the line – »pilot 4.0« offers innovative solutions for special applications and is continuously developed in-house by ZOLLER with a large development capacity in order to meet the requirements of new tool technologies and to competently implement customer requests while at the same time making existing processes even simpler and more efficient. For example, the important preparation of grinding wheels for new orders. ZOLLER offers the consistently perfect solution for short set-up and throughput times: From management, storage and assembly to measuring and transferring the measurement data to your grinding machine.



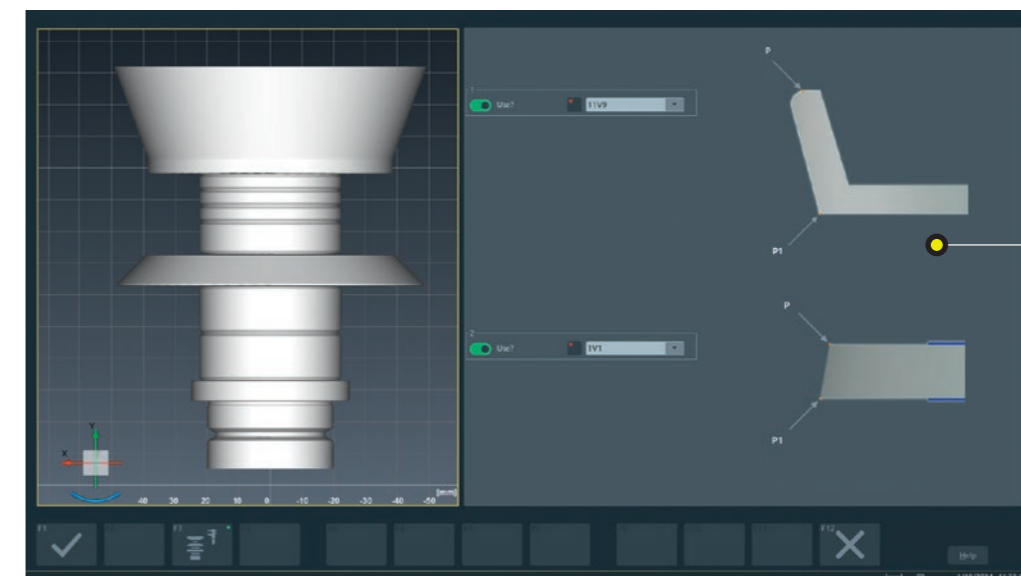
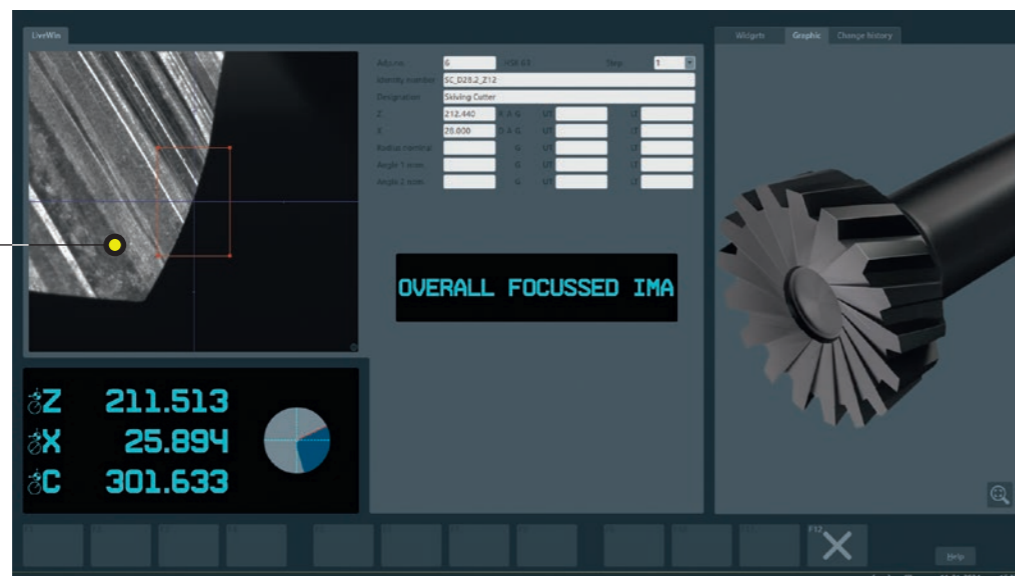
**Power Skiving Cutter software** – for determining the tool parameters required for use on the machine tool – photoreal input dialog and automatic measurement in incident and transmitted light.



**Grinding wheels software** – library of grinding wheel types according to FEPA standard as well as grinding machine manufacturer specific types (e.g. ANCA, MAKINO, ROLLOMATIC).



**Power Skiving Cutter software** – automatic measurement in incident light with the tool inspection camera, including depth image generation for distortion-free measurements and with automatic setting of the illumination intensity for optimal lighting of the surface.



**»elephant 2.0« for grinding wheels** – scans the contour of the grinding wheel package and determines the individual grinding wheel types fully automatically. The package is then measured and recorded in detail without any data input. The grinding wheel pack can be saved for subsequent measurements.

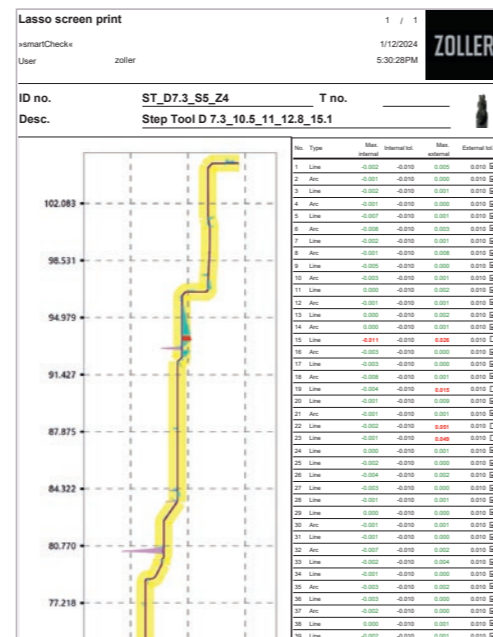
# Logging and Networking Your Data

ZOLLER enables continuous data transfer and secure communication: all systems involved are thus interlinked. Interfaces to your programming systems and grinding machines enable smooth networking and automated data exchange to increase efficiency in your production. Measurement sequences can be prepared and simulated externally using a CAD model of the tool, and measured actual data is transferred to the machine control. For your inspection and measurement results, ZOLLER »pilot 4.0« offers a wide range of logging options for conclusive proof of tool quality, optimally tailored to your requirements.

Editable inspection report »apus« - to display all measurement results including designations, nominal values, tolerances and much more in tabular form and flexibly in the layout.

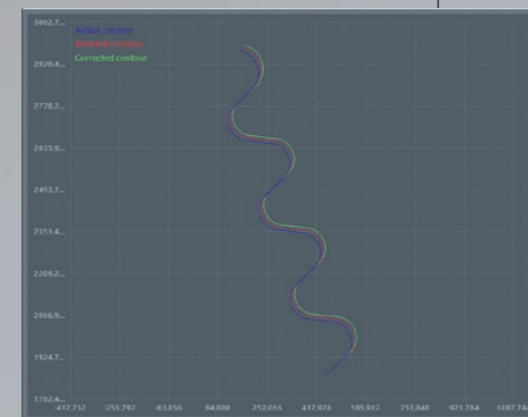
Result	Nom. value	U. tol.	L. tol.	Act. value	Diff. value	Tol.
Diameter Step 1	7.300	0.000	-0.050	7.268	-0.032	OK
Radial run-out	0.000	0.010	0.010	0.010	0.010	OK
Axial run-out	0.000	0.010	0.010	0.002	0.002	OK
Step Length 1	8.000	0.000	-0.050	8.001	0.001	OK
Diameter Step 2	10.500	0.000	0.050	10.468	-0.032	OK
Radial run-out	0.000	0.010	0.010	0.004	0.004	OK
Axial run-out	0.000	0.010	0.010	0.001	0.001	OK
Taper	0.000	0.000	0.000	0.000	0.000	OK
Step Length 2	-12.400	0.050	-0.050	-12.388	0.012	OK
Diameter Step 3	11.100	0.000	-0.050	11.056	-0.044	OK
Step Angle	45.000	0.300	-0.300	44.800	-0.200	OK
Radial run-out	0.000	0.010	0.010	0.004	0.004	OK
Axial run-out	0.000	0.010	0.010	0.009	0.009	OK
Step Length 3	-22.300	0.050	-0.050	-22.265	0.035	OK
Diameter Step 4	13.800	0.000	-0.050	13.750	-0.050	OK
Step Angle	35.000	0.500	-0.500	34.810	-0.190	OK
Radial run-out	0.000	0.010	0.010	0.003	0.003	OK
Axial run-out	0.000	0.010	0.010	0.009	0.009	OK
Step Length 5	-23.900	0.050	-0.050	-23.867	0.033	OK
Diameter Step 5	15.100	0.000	-0.050	15.050	-0.050	OK
Radius	0.150	0.010	-0.010	0.151	0.001	OK
Radial run-out	0.000	0.010	0.010	0.007	0.007	OK
Axial run-out	0.000	0.010	0.010	0.008	0.008	OK
Helix Angle	18.000	1.000	-1.000	18.49	0.49	OK
Relief Angle axial	9.000	0.300	-0.300	8.71	-0.29	OK
Chamber Width radial	0.400	0.050	-0.050	0.420	0.020	OK
Chamber Width axial				0.598		

Measure protocol	1 / 1	
smartCheck	1/12/2024	
User	zoller	
ID no.	ST_D7.3_S5_Z4	
Desc.	Step Tool D 7.3_10.5_11_12.8_15.1	
Tester		
Result		
Diameter Step 1	7.300 0.000 -0.050 7.268 -0.032	
Radial run-out	0.000 0.010 0.010 0.010 0.010	
Axial run-out	0.000 0.010 0.010 0.002 0.002	
Step Length 1	8.000 0.000 -0.050 8.001 0.001	
Diameter Step 2	10.500 0.000 -0.050 10.468 -0.032	
Radial run-out	0.000 0.010 0.010 0.004 0.004	
Axial run-out	0.000 0.010 0.010 0.003 0.003	
Taper	0.000 0.000 0.000 0.000 0.000	
Step Length 2	-12.400 0.050 -0.050 -12.388 0.012	
Diameter Step 3	11.100 0.000 -0.050 11.056 -0.044	
Step Angle	45.000 0.300 -0.300 44.800 -0.200	
Radial run-out	0.000 0.010 0.010 0.004 0.004	
Axial run-out	0.000 0.010 0.010 0.009 0.009	
Diameter Step 4	13.800 0.000 -0.050 13.750 -0.050	
Step Angle	35.000 0.500 -0.500 34.810 -0.190	
Radial run-out	0.000 0.010 0.010 0.003 0.003	
Axial run-out	0.000 0.010 0.010 0.009 0.009	
Step Length 5	-23.900 0.050 -0.050 -23.867 0.033	
Diameter Step 5	15.100 0.000 -0.050 15.050 -0.050	
Radius	0.150 0.010 -0.010 0.151 0.001	
Radial run-out	0.000 0.010 0.010 0.007 0.007	
Axial run-out	0.000 0.010 0.010 0.009 0.009	
Helix Angle	18.000 1.000 -1.000 18.49 0.49	
Relief Angle axial	9.000 0.300 -0.300 8.71 -0.29	
Chamber Width radial	0.400 0.050 -0.050 0.420 0.020	
Chamber Width axial		0.598



Example - left - report printout with »apus«.

right - measurement program specific inspection report printout.



Contour correction for forming tools - nominal/actual comparison of the scanned contour with the nominal contour in DXF format. The software »coCon« inverts the deviations and generates a contour correction, which is transferred to the machine as a new DXF file.

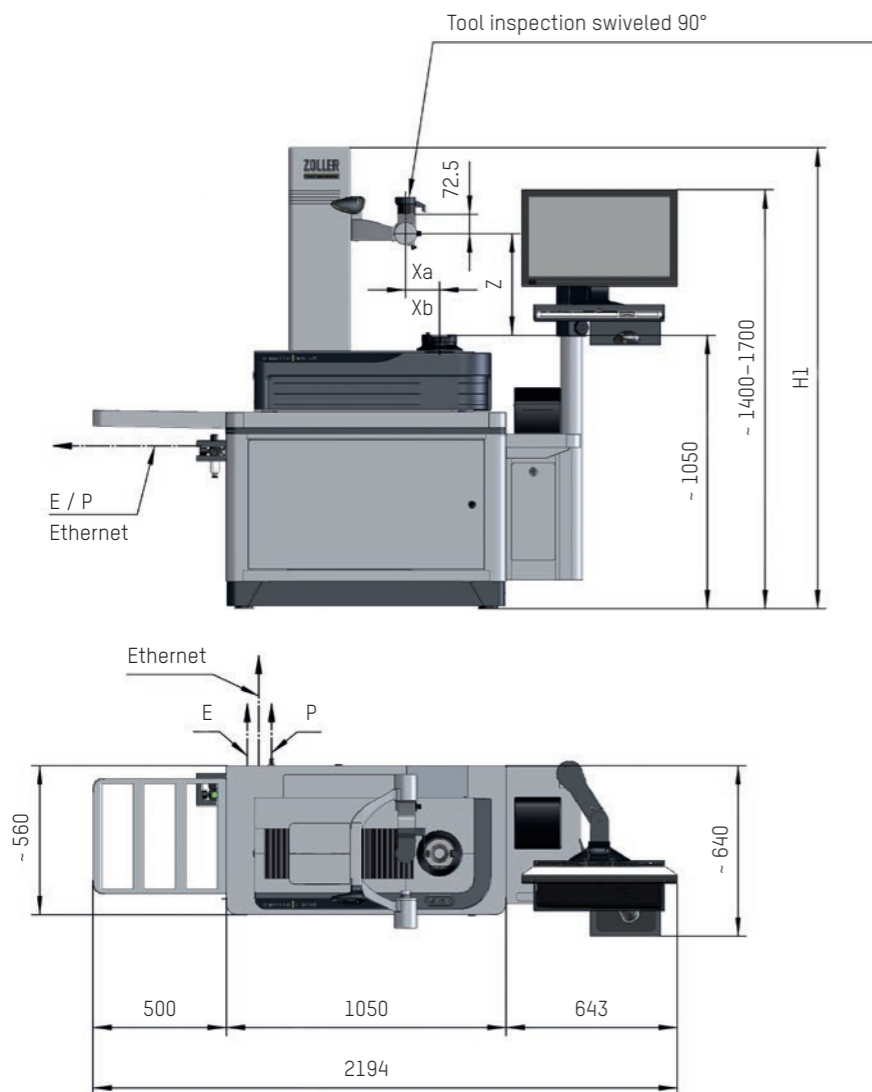
Measuring step	DF183	Mod	Value
1	Lengthways d...	RA	115.892
2	Crossway d...	DA	15.935
3	Radius	RA	0.564
4	Angle 1	AT	271.68
5	Lengthways d...	RA	115.892
6	Crossway d...	DA	15.935
7	Radius	RA	0.564
8	Angle 1	AT	271.68
9	Lengthways d...	RA	115.892
10	Crossway d...	DA	15.935
11	Radius	RA	0.564
12	Angle 1	AT	271.68
13	Lengthways d...	RA	115.892
14	Crossway d...	DA	15.935
15	Radius	RA	0.564
16	Angle 1	AT	271.68
17	Lengthways d...	RA	115.892
18	Crossway d...	DA	15.935
19	Radius	RA	0.564
20	Angle 1	AT	271.68

Interfaces - the inspection and measuring device receives a measurement data file from the programming system or the grinding machine and automatically generates the measurement. The measured tool data is transferred from the ZOLLER inspection and measuring device to the programming system or to the machine control, where the NC program is optimized for series production.

# Installation Dimensions and Technical Data

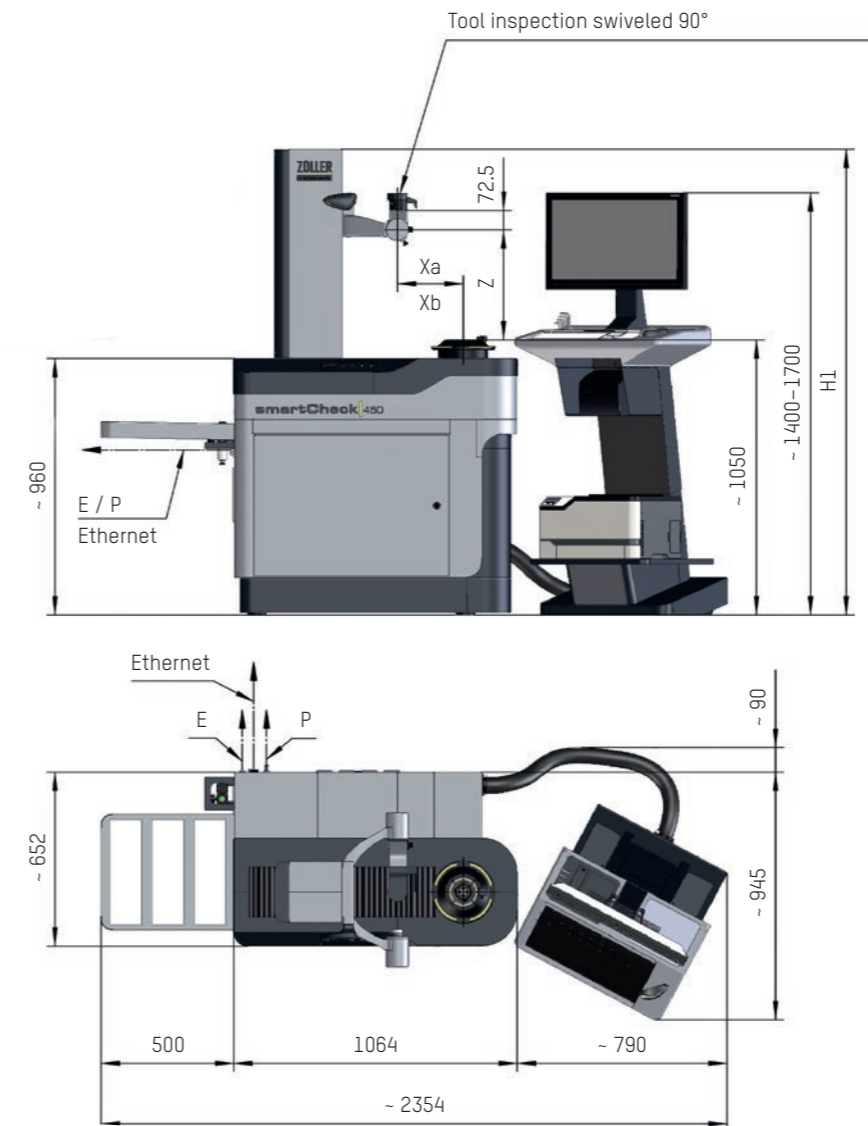
Technical data »smileCheck«

Maximum tool length Z	Maximum tool diameter D	Maximum snap gauge diameter d	Travel range Y-axis*	Number of axes	Height H1
420 mm	420/460/620 mm	70 mm	± 50 mm	3-4	~ 1750 mm
600 mm	420/460/620 mm	70 mm	± 50 mm	3-4	~ 1950 mm
800 mm	420/460/620 mm	70 mm	± 50 mm	3-4	~ 2150 mm



Technical data »smartCheck 450«

Maximum tool length Z	Maximum tool diameter D	Maximum snap gauge diameter d	Travel range Y-axis*	Number of axes	Height H1
450 mm	420/460/620 mm	70 mm	± 50 mm	3-4	~ 1750 mm
620 mm	420/460/620 mm	70 mm	± 50 mm	3-4	~ 1950 mm
820 mm	420/460/620 mm	70 mm	± 50 mm	3-4	~ 2150 mm

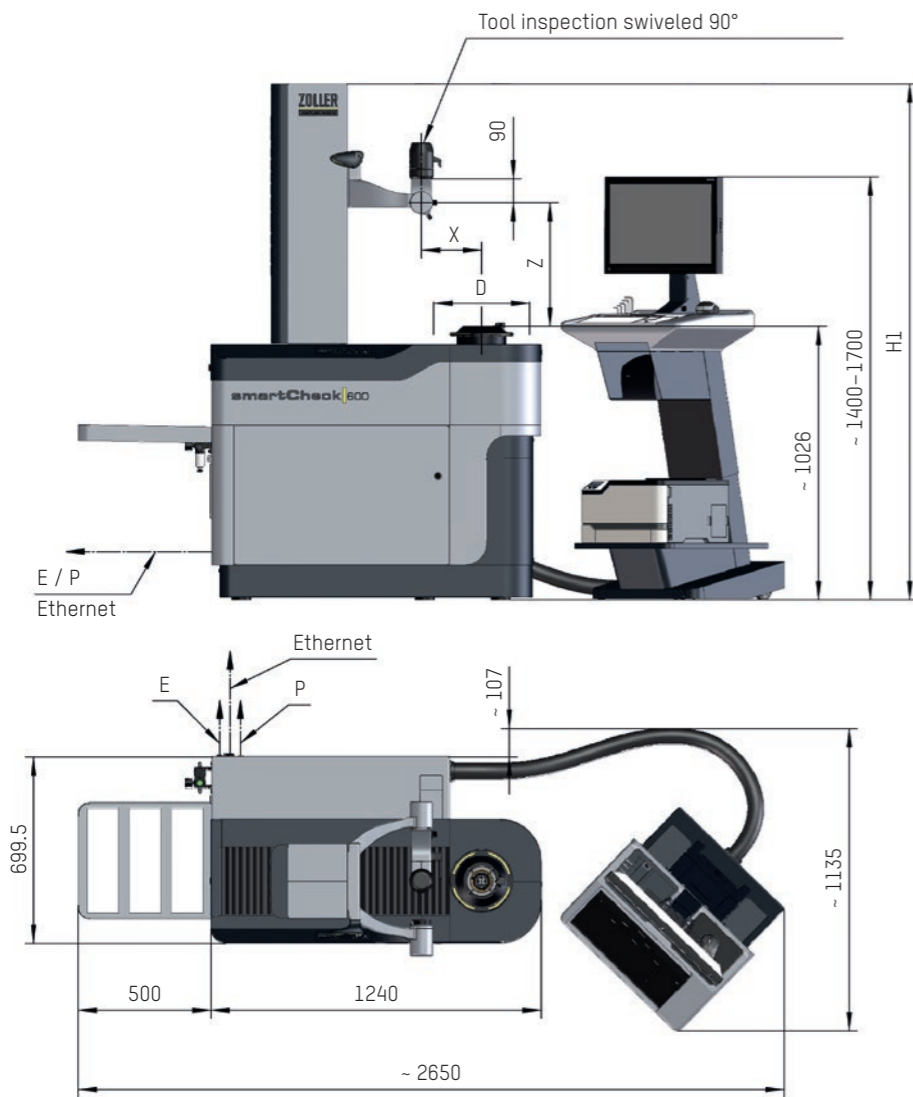




# Installation Dimensions and Technical Data

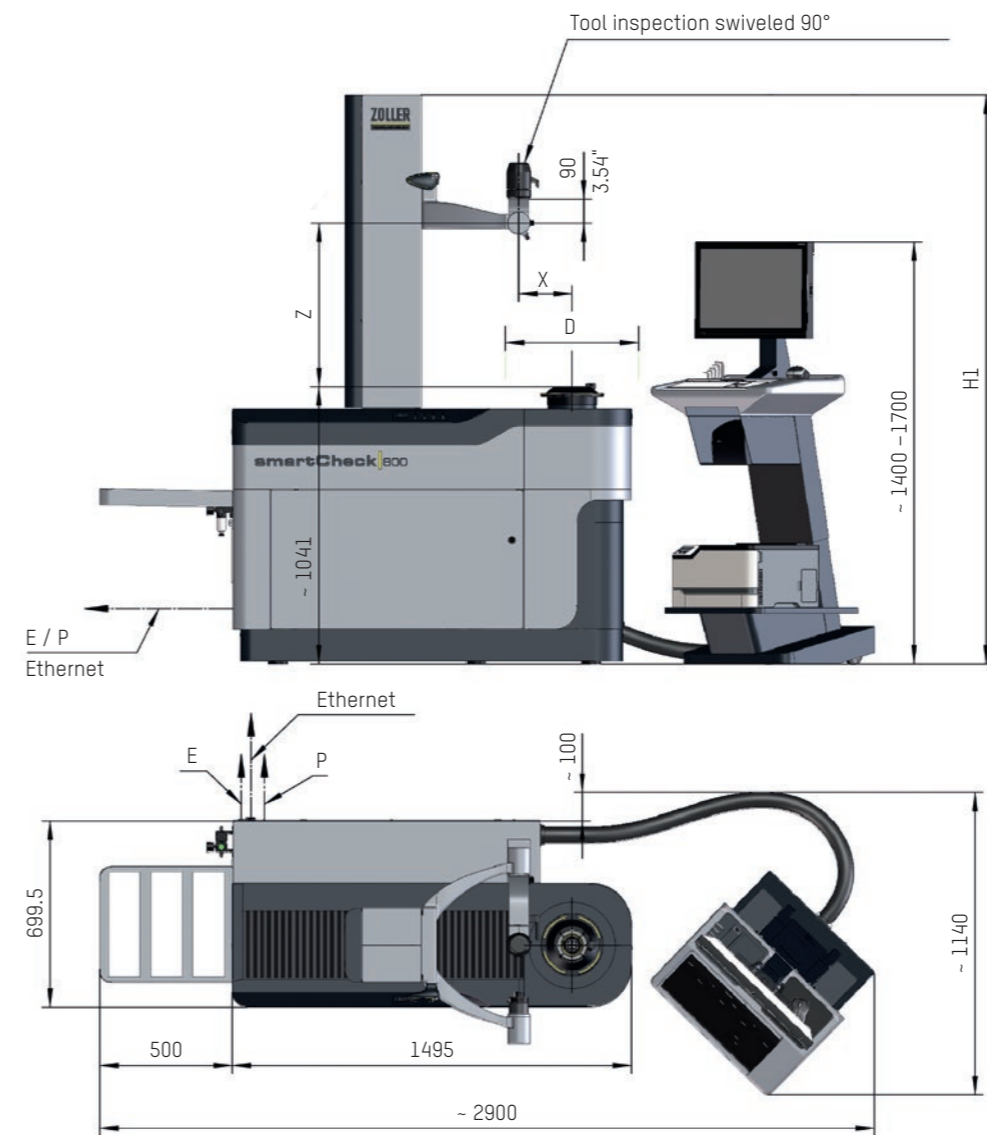
Technical data »smartCheck 600«

Maximum tool length Z	Maximum tool diameter D	Maximum snap gauge diameter d	Travel range Y-axis*	Number of axes	Height H1
600 mm	560/600/660/800 mm	65/85 mm	± 100 mm	3-4	~ 1936 mm
800 mm	560/600/660/800 mm	65/85 mm	± 100 mm	3-4	~ 2136 mm
1000 mm	560/600/660/800 mm	65/85 mm	± 100 mm	3-4	~ 2336 mm
1200 mm	560/600/660/800 mm	65/85 mm	± 100 mm	3-4	~ 2536 mm



Technical data »smartCheck 800«

Maximum tool length Z	Maximum tool diameter D	Maximum snap gauge diameter d	Number of axes	Height H1
600 mm	860/1000 mm	85 mm	3-4	~ 1936 mm
800 mm	860/1000 mm	85 mm	3-4	~ 2136 mm
1000 mm	860/1000 mm	85 mm	3-4	~ 2336 mm
1200 mm	860/1000 mm	85 mm	3-4	~ 2536 mm



Note: P Air connection, ø 6 E Electrical connection Installation dimensions in mm \*optional

# Technical Data

Technical data	»smileCheck«	»smartCheck 450«	»smartCheck 600«	»smartCheck 800«
<b>Axes</b>				
One-hand control handle »eQ«	●	●	●	●
CNC drive (Z, X)	●	●	●	●
Fine adjustment/handwheels (Z, X)	⊙	⊙	⊙	⊙
Angle measuring system C-axis	⊙	●	●	●
CNC/autofocus	⊙	●	●	●
CNC/Y-axis	⊙	⊙	⊙	-
CNC/swivelling optics carrier [A] <sup>[1]</sup>	-	-	⊙	⊙
<b>Electronics</b>				
24" TFT color monitor with software »pilot 4.0«	●	●	●	●
Additional 17" satellite monitor	⊙	⊙	⊙ <sup>[2]</sup>	⊙ <sup>[2]</sup>
Integrated control unit with keyboard/mouse	●	⊙	⊙	⊙
Separate control unit »cockpit«	⊙	●	●	●
<b>Spindle</b>				
High-precision spindle SK 50/Vacuum <sup>[3]</sup>	●	⊙	⊙	⊙
High-precision spindle »pcs«	⊙	-	-	-
High-precision spindle »ace« Size 1	-	●	●	●
High-precision spindle »ace« Size 2	-	-	⊙	⊙
<b>Tailstock</b>				
Pneumatic counter center	-	-	⊙	⊙
<b>Camera/sensors configuration</b>				
Transmitted light camera HR50, BF approx. 7.3 x 6.7 mm <sup>2</sup>	●	●	●	●
Transmitted light camera HR50 1:1, BF approx. 4.0 x 3.6 mm <sup>2</sup>	-	⊙	⊙	⊙
Transmitted light camera HR70 1:1, BF approx. 4.0 x 3.6 mm <sup>2</sup>	⊙	⊙	⊙	⊙
Transmitted light camera 5 Mpx, BF approx. 4.4 x 4.0 mm <sup>2</sup>	-	⊙	⊙	-
Transmitted light camera WF, BF approx. 15.5 x 14.1 mm <sup>2</sup>	-	-	⊙	-
Incident light camera, BF approx. 7.1 x 6.5 mm <sup>2</sup>	●	●	-	-
Incident light camera, BF approx. 4.4 x 4.0 mm <sup>2</sup>	-	-	●	●
Cutting edge inspection LED incident light	●	●	●	●
Standard tool inspection	●	●	-	-
Premium tool inspection	-	-	●	●
<b>Stable table</b>				
Integrated	●	●	●	●
<b>Tool identification</b>				
RFID Manual »mslz«	⊙	⊙	⊙	⊙
RFID Manual »msle«	⊙	⊙	-	-
RFID Manual/drive slot	⊙	-	-	-
RFID Semi-automatic/drive slot	⊙	⊙	⊙	⊙
RFID Automatic/drive slot	-	⊙	⊙	⊙
RFID Automatic/head bolt	-	⊙	⊙	⊙
Code scanner Manual/drive slot	⊙	⊙	⊙	⊙
Code scanner Automatic/drive slot	-	⊙	⊙	-

[1] Not possible in combination with Y-axis

[2] Only in combination with »cockpit«

[3] Option

● Base model   ⊙ optional   - not possible

”

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Stefan Bailom, Technical Manager  
CERATIZIT Deutschland GmbH, Kempten



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