

Process-Oriented Compact Solutions for Tool Inspection

pomBasic



We Stand for Smart **Progress**

ECONOMICS

Do you want to speed up your work processes? Then take the shortcut in tool measurement and inspection. The ZOLLER inspection machines »pomBasic« and »pomBasicMicro« are the ideal solution for well thought-out, economically structured preparation and production of precision tools.

Save yourself unnecessary trips to the measuring room – benefit from efficient processes and precise results in record time.

The ZOLLER inspection machines »pomBasic« and »pomBasicMicro« with their compact dimensions can be positioned anywhere in your production – for example directly next to the CNC grinding machine, in the goods receipt or at the tool issue.





Tool Inspection – Well Thought Through

ZOLLER »pomBasic« and »pomBasicMicro« impress with reliable measuring: Insert the tool, align it, check it and you're done. This is how you can inspect almost all shank tools easily and reliably. Automatic edge detection guarantees fast measurement with high accuracy.

Wizard-guided measuring sequences, seamless inspection reports at the touch of a button and the tool-specific management of all parameters in the central ZOLLER tool database z.One ensure efficient production processes and traceable quality at all times.







»pomBasic«

We Stand for Passionated **Precision**

TECHNOLOGY

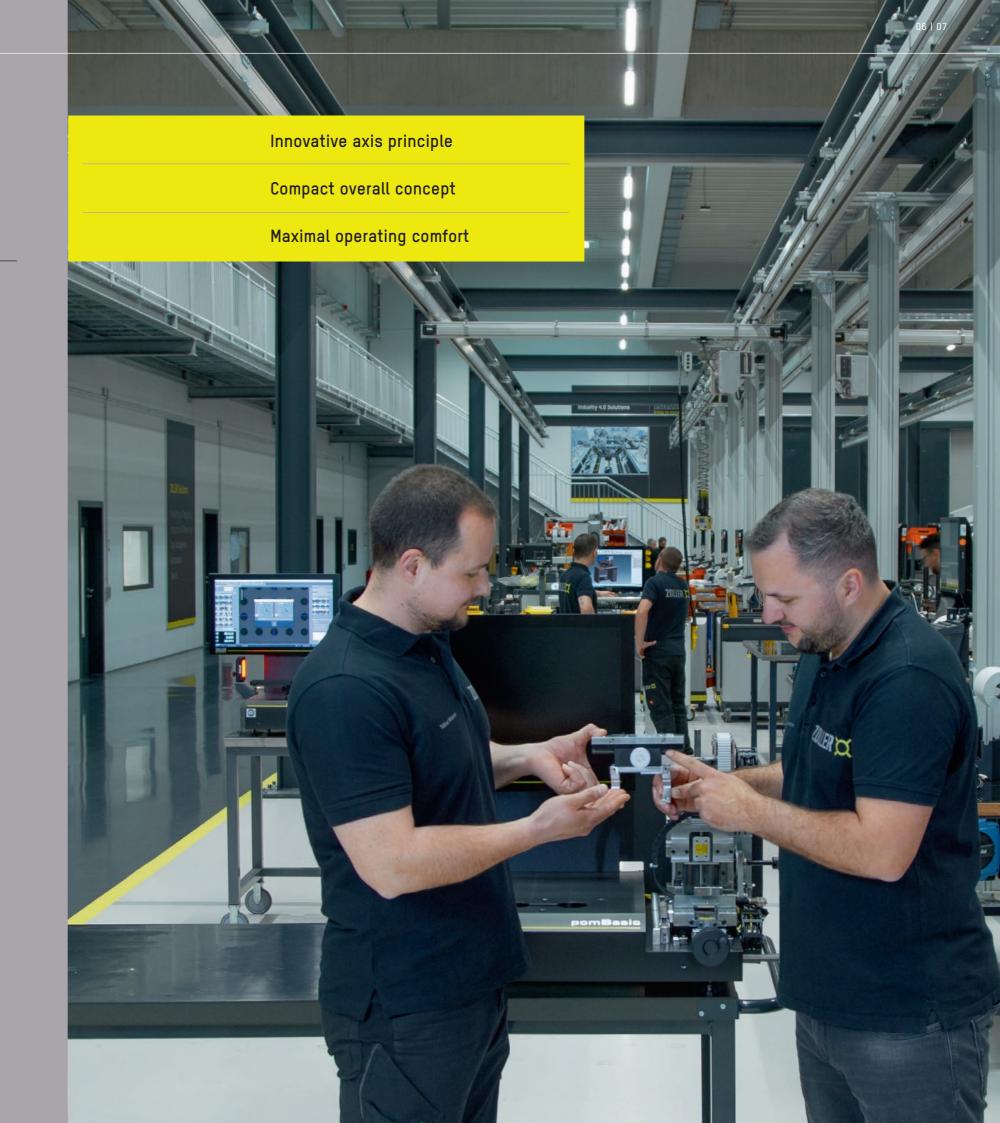
A ZOLLER »pomBasic« is simple, fast and safe to handle – three unbeatable characteristics that could not be more true. But its design also provides the basis for µm-precise measurements: Linear measuring axes, slides and the cable ducts, for example, are unique. ZOLLER »pomBasic« guarantees quality and efficiency, making its use and precise measurements directly in your production indispensable:

Each »pomBasic« is a promise — to our customers. Thanks to clever and process-oriented measuring, or POM for short, »pomBasic« achieves proven precision. The manually operated inspection and measuring technology has high-quality components and an industry-compatible device design — ZOLLER compactness that impresses.

For us, doing the ZOLLER assembly, attention to detail and customer benefit go hand in hand: mechanics, stability and operation are always the focus of our production processes.

TOBIAS WONNER, TIM BIRKENFELDER

Part of the ZOLLER assembly team, ZOLLER assembly preparation



Compactness in Detail

»pomBasic« TÜV and UL/CSA Approved

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

Proven and certified safety.



Software »pomSoft« - is self-explanatory, clearly laid out and enables the operator to take reliable measurements. The 24" TFT color monitor impresses with its industry standard and its integration directly on the device.

Incident light camera with multi-LED segment illumination - has centered, dimmable illumination with automatic illumination control. The high-performance LEDs, segmented into eight areas, ensure optimal lighting of the surface – for high precision.

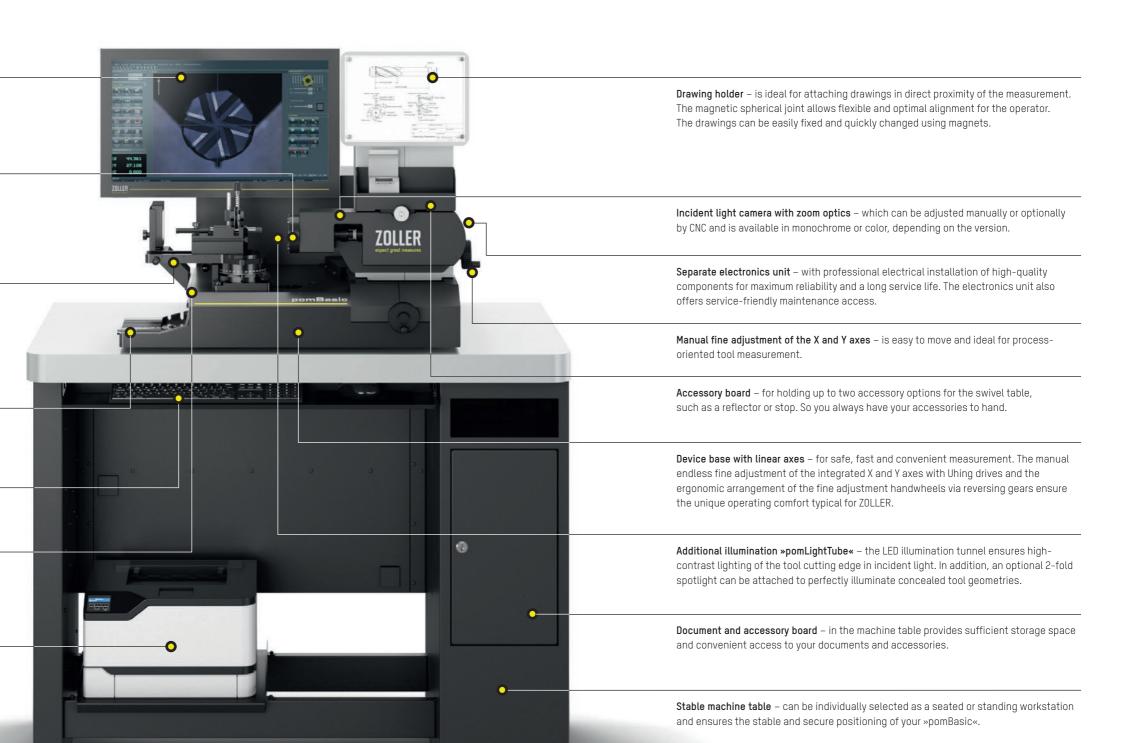
Manual swivel table – enables universal use of the various tool holders. Equipped with 3 x 90° indexing, it can be variably adjusted (± 120° including Nonius) to check tools on the circumference and on the face. The swivel position is held precisely by clamping (index positions for $-90^{\circ}/0^{\circ}/+90^{\circ}$). To measure extra-long tools, an optional swivel table version for lengths up to 400 mm is available.

Tool/accessory board - made of solid and anodized aluminium with seven prisms for gentle storage of shank tools. The board also offers sufficient space for small parts and reversible cutting plates.

Board for mouse and keyboard - is a space-saving pull-out drawer that is ergonomically located on the lower table.

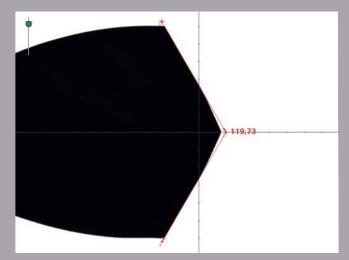
Additional illumination diffuser - enables transmitted light measurement in the circumferential area and allows external contours, step lengths, point angles and much more to be measured.

Color laser printer – for report and list printing has its place in the practical machine table.

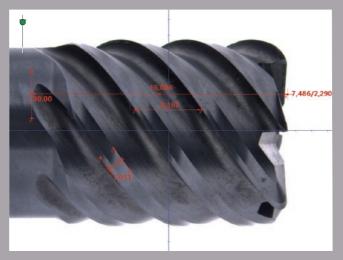


Universal Optics for Inspection and Measuring

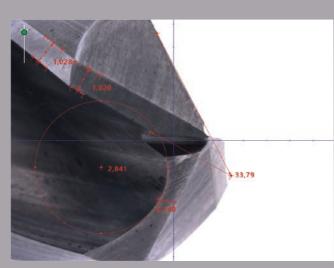
Whenever universal and targeted inspection of cutting tools is required, ZOLLER »pomBasic« gives you precise results quickly and easily: Angles, radii, distances, cutting edge quality, grinding pattern – »pomBasic« measures all relevant parameters of all types of cutting tools such as drills, hob cutters, saw blades, forming tools and cutting inserts in incident light. The additional use of a diffuser (LED flat light) flexibly extends the range of applications for transmitted light measurements. For example, external contours can also be quickly measured and documented.



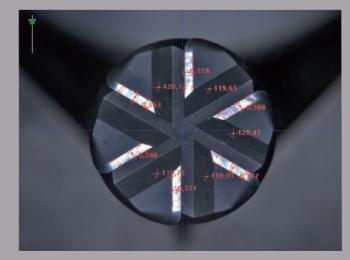
Transmitted light measurement on the circumference



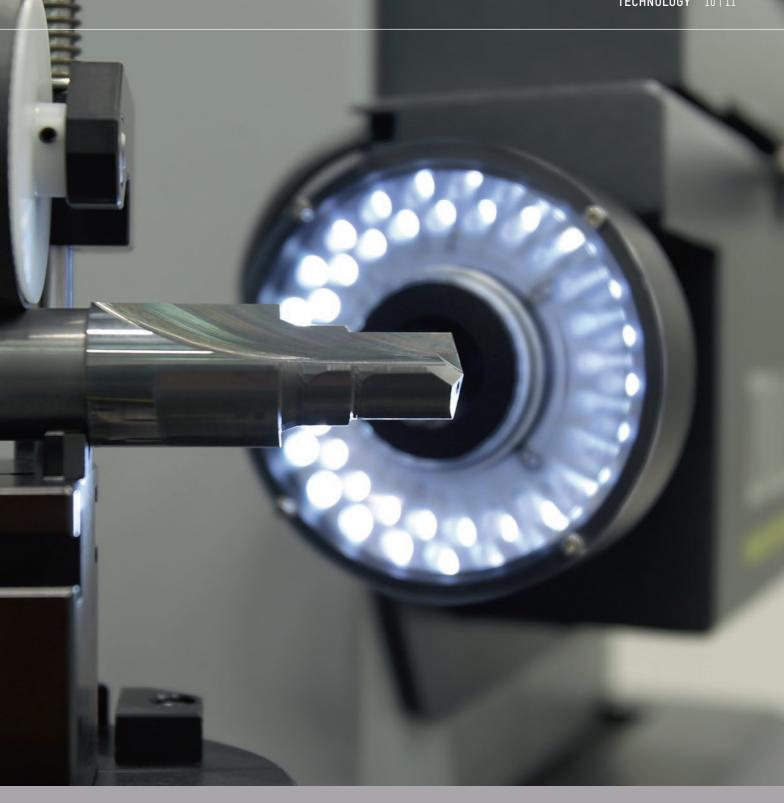
Incident light measurement on the circumference



Contour measurement in the »pomLightTube«



Incident light measurement on the face



Sensors configuration	
Optics »pomBasic«	
»pomColorCam«, BF approx. 3.0 x 2.4 mm² to approx. 20.8 x 16.6 mm²	•
»pomColorCam«-M0T, BF approx. 3.0 x 2.4 mm² to approx. 20.8 x 16.6 mm²	•
Optics »pomBasicMicro«	
»pomMicroCam«, BF approx. 0.6 x 0.5 mm² to approx. 7.9 x 6.3 mm²	•

Tool Inspection in the Best Light

Optimum lighting of the complex geometries on precision tools is a precondition for perfect inspection and measurement. With the ZOLLER illumination »pomLightTube«, which is unique in its design, you can achieve phenomenally homogeneous image quality, even with geometries which are generally difficult to illuminate or with reflective surfaces.

Advantages of the »pomLightTube«

- High-contrast lighting of all types of surfaces
- Axial and radial incident light measurement without interruption
- No interference from partial spots



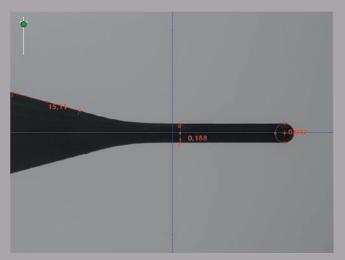


Frontal view of a step drill in the »pomLightTube«

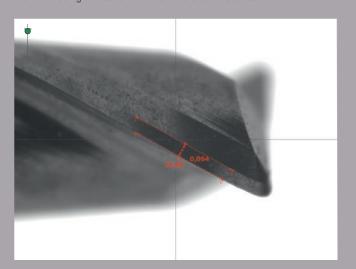
 $\textbf{Circumferential view of a step drill} \ in \ the \ "pomLightTube" \\$

Highest Perfection with "Micro" Optics

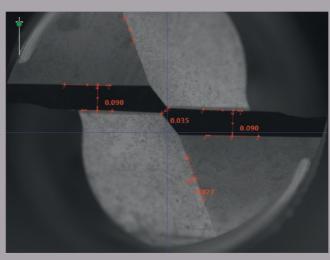
ZOLLER »pomBasicMicro« is the compact and process-oriented inspection solution for inspecting and measuring micro tools. A special high-resolution micro camera enables the exact inspection of tools of the smallest size: the lens zoom with its magnification capacity of over 400x captures every micro tool in such detail that measurements can be carried out conveniently and with highest precision. The »pomBasicMicro« can be used universally in the measuring room, in the goods receipt or directly on the shopfloor.



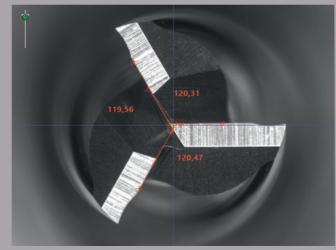
Transmitted light measurement on the circumference



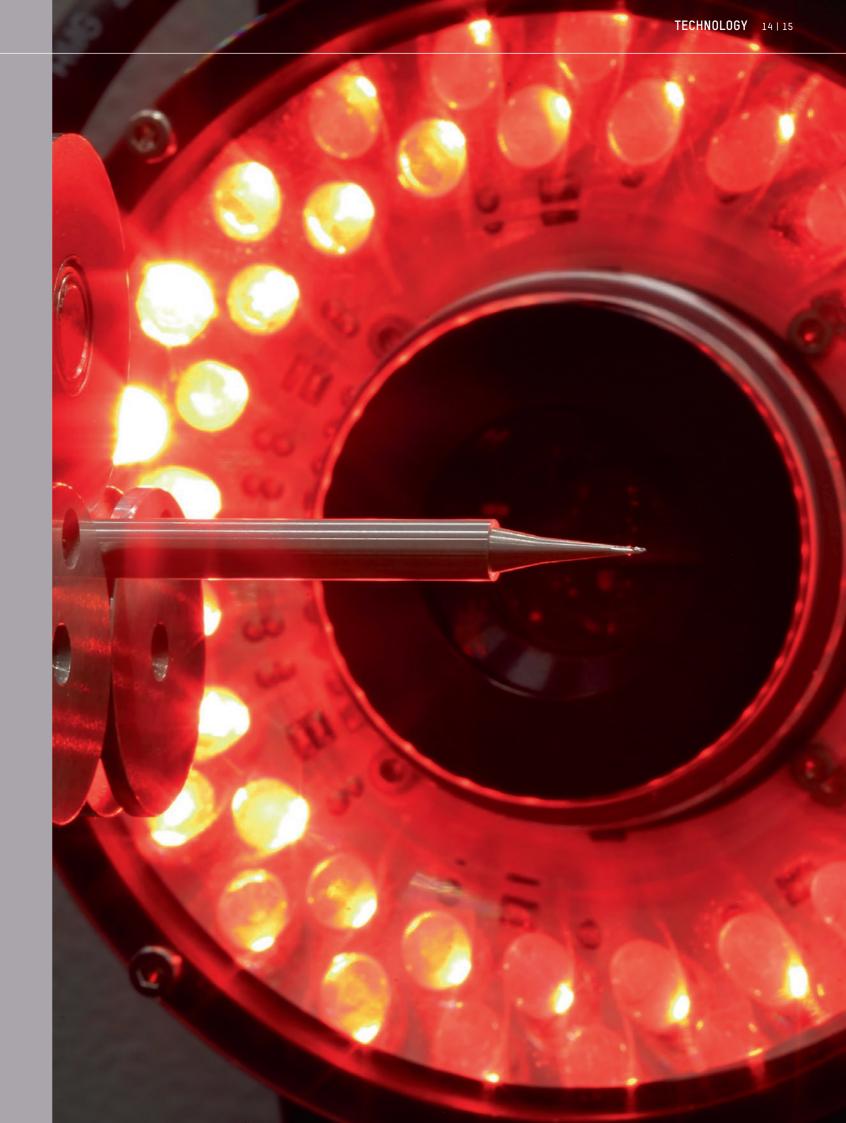
Incident light measurement on the circumference



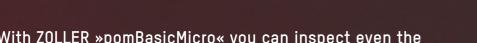
Contour measurement in the »pomLightTube«



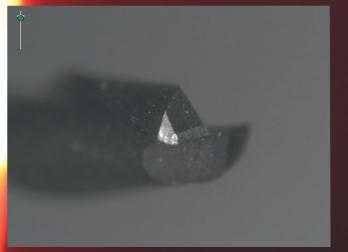
Incident light measurement on the face



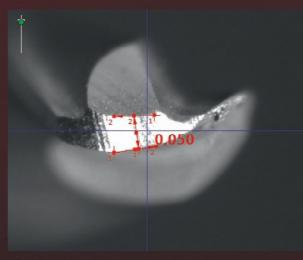
With ZOLLER »pomBasicMicro« you can inspect even the smallest detail with the utmost precision – we call this ZOLLER



high-performance for consistent quality of your micro tools.



Wear testing/inspection of surface coatings



Contour measurement/inspection on a full radius cutter D 0.2 mm

Advantages of the ZOLLER inspection with »pomBasicMicro«

- Inspecting the smallest tools with µm-precision
- Future-oriented measuring technology for your production
- Contactless measurements within seconds



µm-Precise Tool Holding

D 2 mm to D 50 mm*



Babychuck collet

adapter D 32 mm

Reversible cutting plate holder D 32 mm



Tool holder »pomPrisma«, directly clampable shank: D 2 mm to D 50 mm**



directly clampable shank: D 2 mm to D 40 mm



Tool holder »pomRoll«-RP lite, directly clampable shank: D 1 mm to D 20 mm, manual fine adjustment for tool rotation



small prism

Advantages of the ZOLLER swivel table

- Tool holders are changed ergonomically and quickly
- Simple alignment and positioning
- Stable construction for exact measuring processes





D 3 mm to D 20 mm



Collet chucks NBC20 D 3 mm to D 20 mm



Saw blade holder



Tool holder SK 50



Rotating collet chuck holder NBC20 for shank D 3 mm to D 20 mm



Tool-holding spindle HSK 63, manual clamping



Swivel table – with Nonius, clamping and indexing

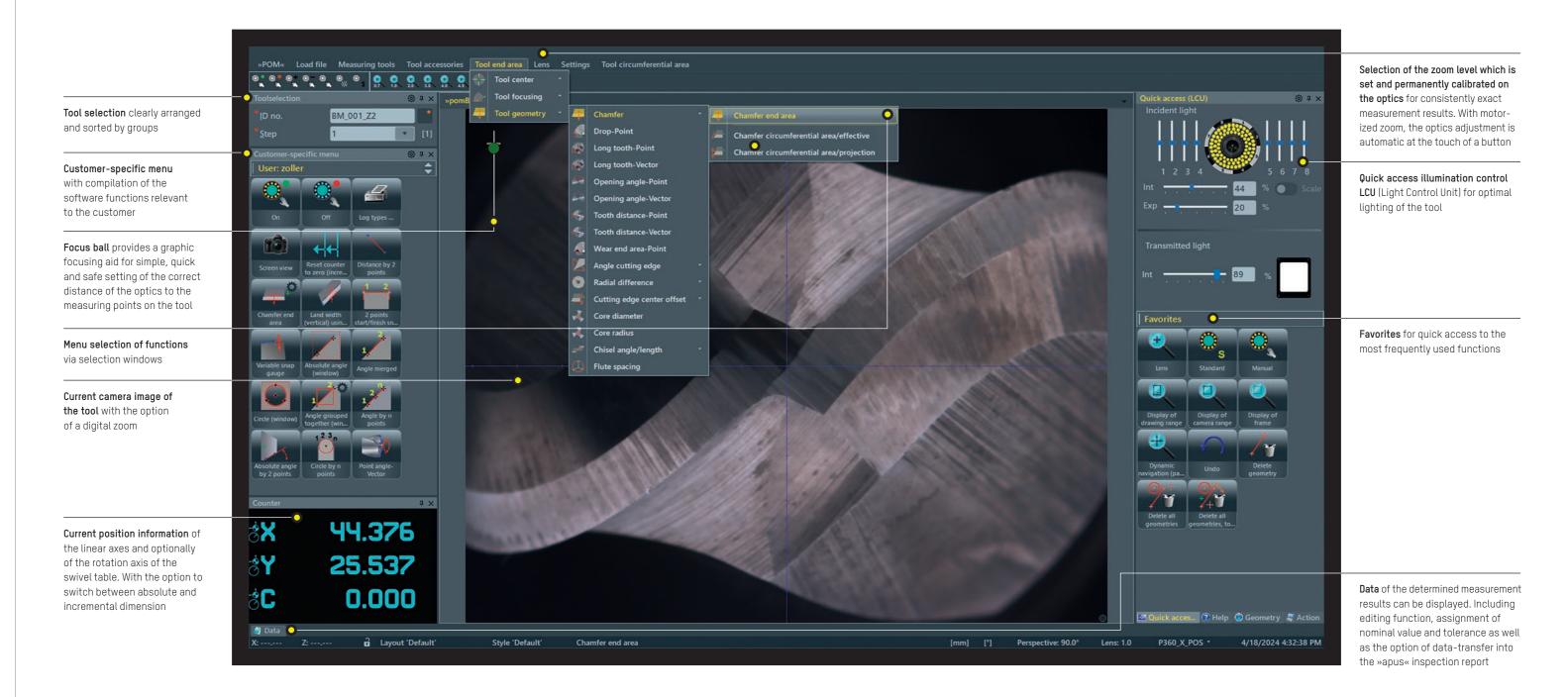
Enables the universal use of the various »pomBasic« and »pomBasicMicro« tool holders. Equipped with 3 x 90° indexing, it can be variably adjusted (± 120° including Nonius) to check the tools on the circumference and on the face. The swivel position is held precisely by clamping (index positions for -90°/0°/+90°). To measure extra-long tools, an optional swivel table version for lengths up to 400 mm is available.



Rotation sensor (ROD) - for angle display swivel table in »pilot 4.0«

Can be optionally integrated into the swivel table. The angle is displayed digitally in counter mode (C-axis). The digital display ensures e.g. the fast positioning of the swivel table to the nominal angle in the image processing technology »pomSoft«.

The special ZOLLER software "pomSoft" for process-oriented measurement is based on the globally proven ZOLLER image processing technology "pilot 4.0" and is equipped with numerous evaluation algorithms for grinding and sharpening shops as well as tool manufacturers. In addition, all functions can be individually created and saved for the respective inspection task and tool variant in the customer-specific menu. This means that it can be used clearly and user-independently without the need for extensive training.



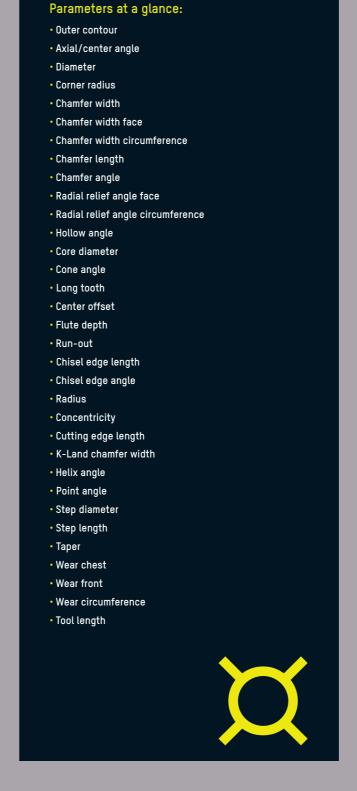
Check and Document Parameters Precisely

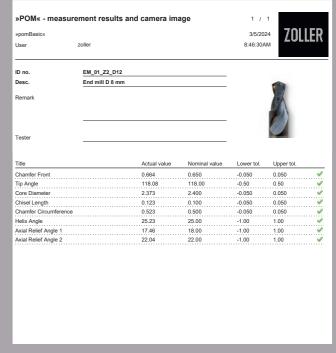












Documentation – of your measurements as a clearly laid out inspection report with the option of output to your list printer or as PDF file

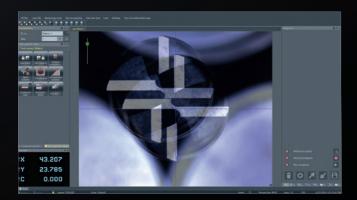


Inspection report – with large display of the cutting edge as additional option for your documentation

Automatic Inspection with the Macro Function

Do you have repetitive measuring tasks and want to carry them out effectively? Also for this, ZOLLER has the perfect solution: Thanks to the macro function, repeat measurements can be saved easily and reliably. A reference image serves as a template - as soon as the tool is positioned congruently with the template, a single press of a button is all it takes to start the automatic measuring process, regardless of the operator: We call this intelligent ZOLLER comfort.

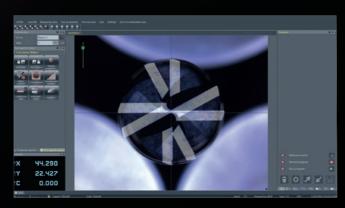
A single click on your saved macro program is all it takes and the measuring process runs automatically: simple, fast and user-friendly.



Save tool as digital reference image



Start the automatic measuring process in the macro program



Position the tool to be measured in relation to the reference image

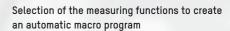


Overview of measurement results and tolerances

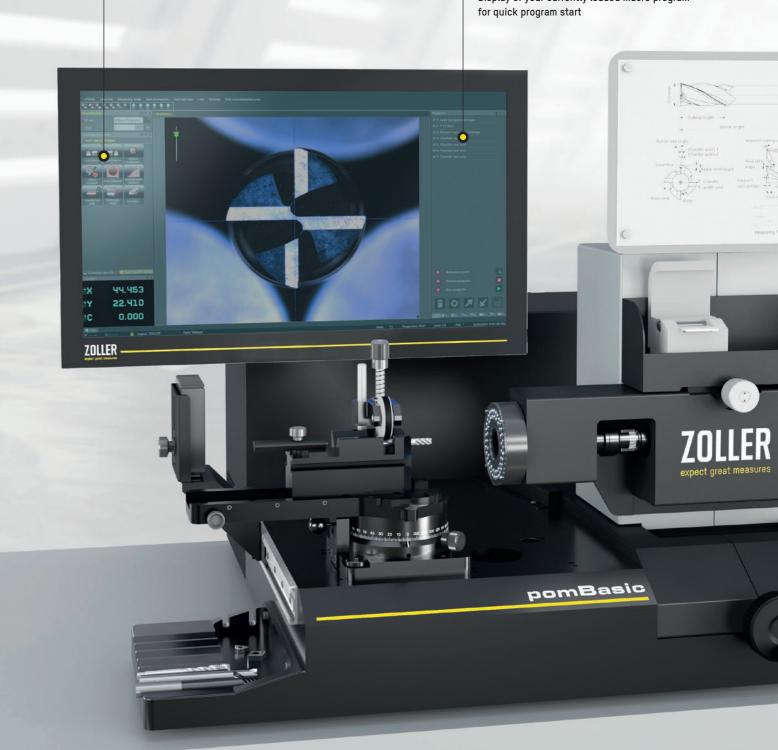
Advantages of the ZOLLER macro function

- Repeated measuring tasks with just one mouse click
- Fully automatic measuring process up to the report
- Operation for all your employees without the need for training



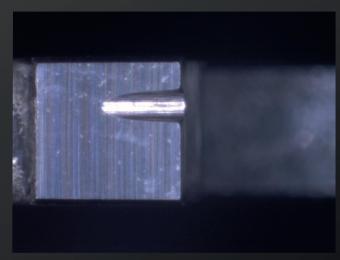


Display of your currently loaded macro program

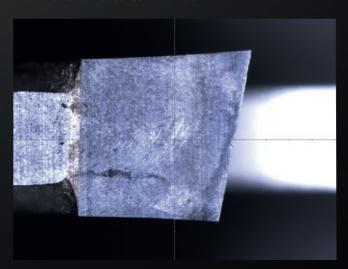


Measuring Saw Blades Tooth by Tooth

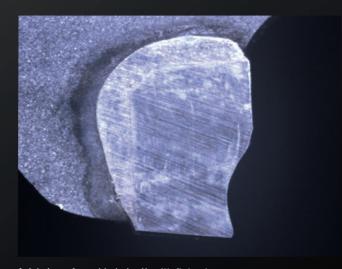
The saw blade holder extends the range of applications of »pomBasic«. It can be used to clamp saw blades with a diameter of 150 mm to 600 mm with corresponding reducer rings. With the image processing »pomSoft« a variety of parameters and geometries on the teeth of the saw blades can be determined axially and radially in incident light.



Radial view of saw blade tooth with flute



Radial view of saw blade tooth to control cutting edge and soldering



Axial view of saw blade tooth with flute step



Axial view of saw blade tooth to control cutting edge and soldering



Options/Accessories

Machine table standing workstation

Stable and safe positioning of the inspection device »pomBasic« and »pomBasicMicro« as a standing workstation. Includes pull-out board for mouse and keyboard.



Machine table seated workstation

Stable and secure positioning of the inspection device »pomBasic« and »pomBasicMicro« as a seated workstation for optimum comfort, even on time-consuming inspection tasks. Includes pull-out board for mouse and keyboard.



Diffuser (white/red)

The diffuser (LED flat light) enables transmitted light measurement in the circumferential area. For this purpose, the diffuser is positioned opposite the video microscope system. This means that outer contours, step lengths, point angles and much more can be measured.

Diffuser white for »pomBasic«, Diffuser red for »pomBasicMicro«



»pomLightTube« (white/red)

Additional illumination adjustable in height for optimum, high-contrast lighting of even the smallest areas along the tool cutting edge – for radial and axial incident light measurements.

»pomLightTube« white for »pomBasic«, »pomLightTube« red for »pomBasicMicro«



2-fold LED spot illumination (white/red)

The dimmable additional illumination consisting of two LED spots can be flexibly positioned in relation to the tool to provide optimum lighting even for undercut tool geometries.

LED spots white for »pomBasic«, LED spots red for »pomBasicMicro«



Drawing holder

Ideal for attaching drawings in direct proximity of the measurement. The magnetic spherical joint allows flexible and optimum alignment for the operator. The drawings can be easily fixed and quickly changed using magnets.



Tool/accessory board

The tray on the left of the inspection device allows tools with a maximum shaft diameter of D 50 mm to be stored carefully. The board also offers sufficient space for small parts and reversible cutting plates.



Options/Accessories

Extended swivel table

For extra-long tools such as drills or reamers, the extended swivel table enables perfect tool fixing.



Extended holder for deep hole drills

Support for extra-long tools D 3 mm to D 20 mm up to a length of 1000 mm. The support height of the prism can be adjusted. The connection to the extended swivel table is mechanical.



Calibration gauge

The calibration gauge for the image processing technology "pomSoft" is used to correct the distortion of the optics and to determine the absolute accuracy of the zoom levels. The calibration gauges can be mounted directly on the swivel table.



Motor zoom

The zoom level is selected in the software at the click of a mouse and automatically adjusted by motor, making measuring processes even more reliable and comfortable.



Color laser printer

For report printouts directly on the inspection device.



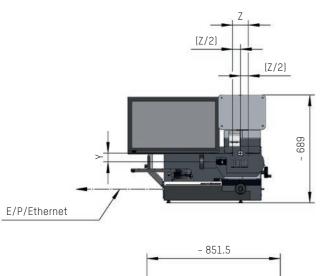
UPS system

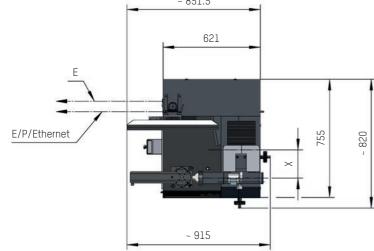
The UPS system for uninterruptible power supply ensures that your computer is shut down properly in the case of a power failure to prevent data loss. Mains voltages of 230 V~ (Europe) and 120 V~ (USA) are available.



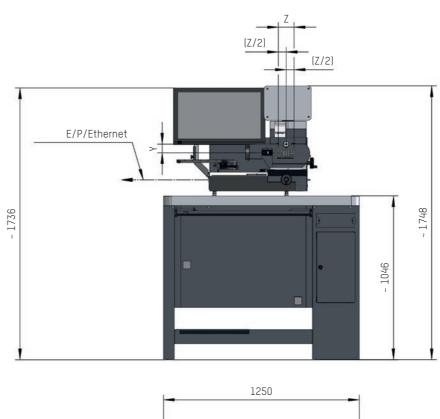
Installation Dimensions and Technical Data

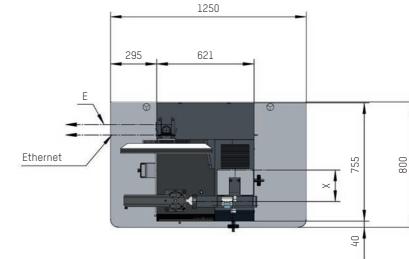
Technical data »pomBasic« & »pomBasicMicro« - Table version





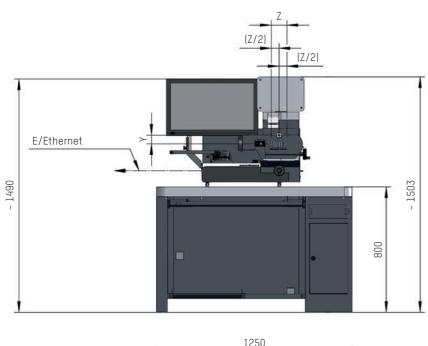
Technical data »pomBasic« & »pomBasicMicro« - Standing workstation

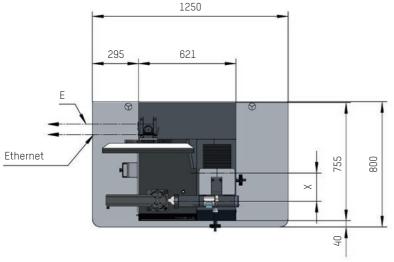




Installation Dimensions and Technical Data

Technical data »pomBasic« & »pomBasicMicro« - Seated workstation





	»pomBasic«	»pomBasicMicro«
Axes		
Swivel table standard	•	•
Swivel table extended	•	•
Indexing -90°/0°/+90°	•	•
Manual clamping	•	•
Nonius angle display swivel table	•	•
ROD encoder angle display swivel table	•	•
Manual endless fine adjustment X/Y	•	•
Manual camera axis	•	•
Electronics		
»pilot 4.0« 24" TFT color monitor	•	•
Device equipment		
Workbench version	•	•
Machine table standing workstation	•	•
Machine table seated workstation	•	•
Camera/sensors		
»pomColorCam«, BF approx. 3.0 x 2.4 mm² to approx. 20.8 x 16.6 mm²	•	-
»pomColorCam«-MOT, BF approx. 3.0 x 2.4 mm² to approx. 20.8 x 16.6 mm²	•	-
»pomMicroCam«, BF approx. 0.6 x 0.5 mm² to approx. 7.9 x 6.3 mm²	-	•
8-fold LED incident light white	•	-
8-folg LED incident light red	-	•
Diffuser white	•	-
Diffuser red	-	•
Technical data		
Travel range X-axis	180 mm	180 mm
Travel range Y-axis	55 mm	55 mm
Travel range Z-axis (camera)	± 50 mm	± 50 mm
Clampable shaft diameter	0,5 mm to 50 mm (depending on tool holder)	0,5 mm to 50 mm (depending on tool holder)
Zoom lens	Video microscope system color with 6.5x optical zoom	Video microscope system monochrom with 12x optical zoom
Working distance	90 mm	50 mm



O Parent company Headquarters

Branch office Representative

In Germany at Home - Around the World for You

Your Advantage **ZOLLER** presence

Global. Close. Personal.

ZOLLER quality is "made in Germany" and there for you, anywhere in the world.

Our company has its own locations and branches at 85 sites in 62 countries, guaranteeing we are close to customers and can provide first-class, personal customer service in local markets.

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Solutions

More speed, higher quality, safe processes – with ZOLLER, you increase the efficiency of your production. ZOLLER offers you outstandingly precise devices for adjusting, measuring and testing cutting tools, software, interfaces, cloud services and solutions for the automation of tool processes. You can combine all of this to create your individual system solution – on your way to the smart factory.

Presetting & Measuring

Tool Management
Inspection & Measuring

Automation

Everything from a Single Source. Everything for your Success. Everything with ZOLLER Solutions.

