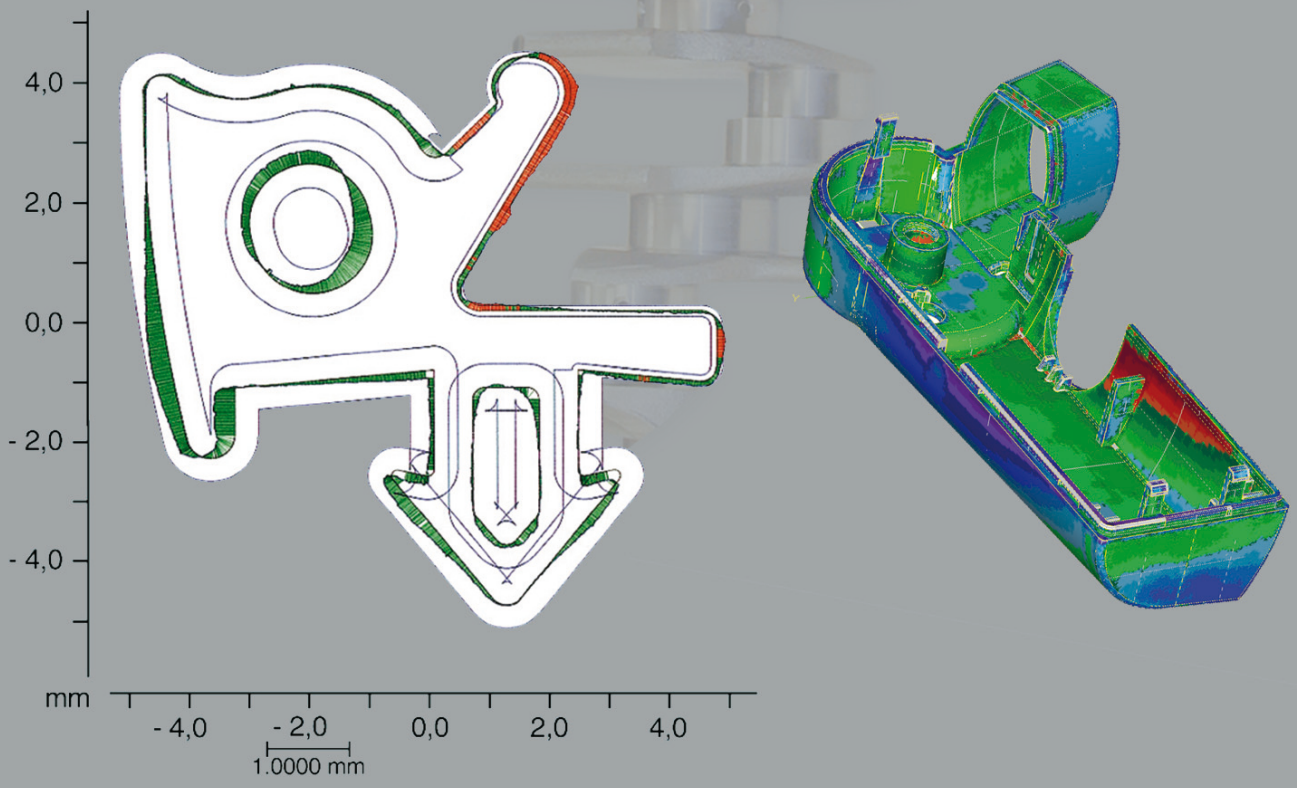
Release Information WinWerth 8.35
New Features

WinWerth®

THE 3D MEASUREMENT SOFTWARE FOR ALL TASKS
ON THE SHOPFLOOR AND IN THE LABORATORY



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WinWerth® Version 8.35

Dear Customers,

We are pleased to introduce the new version 8.35 of our WinWerth® 3D measuring software.

The new version 8.35 of the measuring software WinWerth® is especially convincing with its simplified operation for editing and testing of measurement programs. Interactive and automatic measurement of 3D geometric elements was also improved by expansion of the automatic scan path and point distribution modes for the various sensors. The new Office-style report design offers many flexible and attractive options for the presentation of the measurement results. These and other improvements will make your daily work easier.

Have we fired your interest in the WinWerth® Version 8.35? If so, please request an upgrade offer for your Werth coordinate measuring machine. Many of the new features are WinWerth® standard, some are available as options. Please contact our sales team by phone at +49-641-7938-519, send an email to export@werth.de or contact the sales manager responsible for your region.

We wish you continued success in working with WinWerth®.

Sincerely yours,

Your team from Werth Messtechnik GmbH

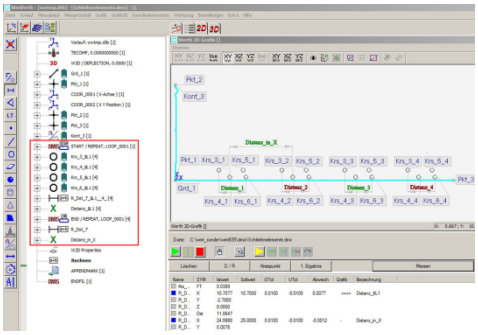
Contents

WinWerth

General Functions

New Edit and Test Functions in TeachEdit Mode

- Selection of single or multiple elements in the feature tree and automatic measurement, for example to check modifications (executed features are highlighted in color)
- Execution in step mode to test programs
- Easy switching between fast execution of parts of programs in Offline Mode or execution in Online Mode
- Offline execution for example of loops and subprograms to generate nominal elements for calculating resultant features
- Online measurement for testing based on real work pieces
- Re-running a pre-alignment allows testing of changes and testing of a program on different work pieces
- Subprograms and loops can be run (completely or partially) in testing mode
- Re-running a local alignment to test the effects of changes on the measuring result or adding of more features
- Measuring of selected features
- Analysis of the measuring program after unusual effects



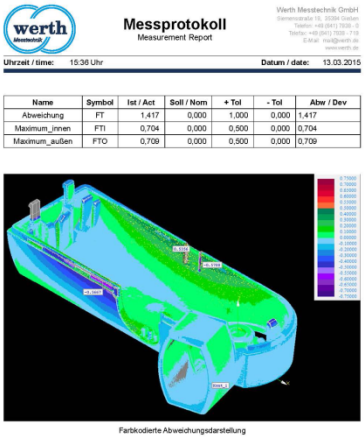
Loop elements in the 2D-graphic window

WinWerth

General Functions

Flexible Office-style Report Design

- Uniform measurement report for tables of results, 2D and 3D graphics, BestFit-, ToleranceFit- or Tool Measurement graphics
- Automatic input of header data using WinWerth User Management and barcode
- Tables of results, graphic files and titles in any format and order
- Automatic update for repeated measurements



Messprotokoll
Measurement Report

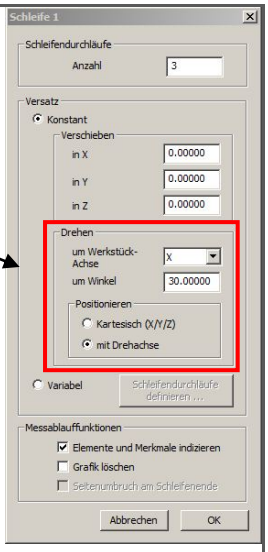
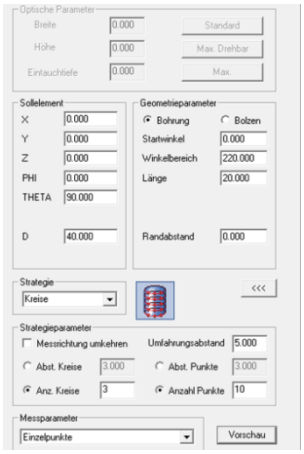
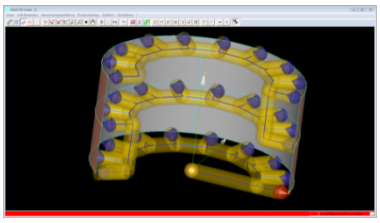
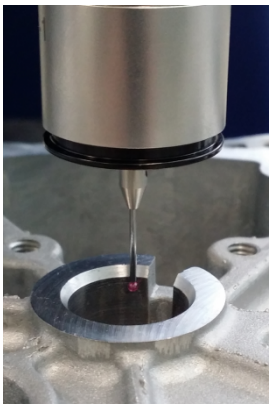
Uhrzeit / time: 15:36 Uhr Datum / date: 13.03.2015

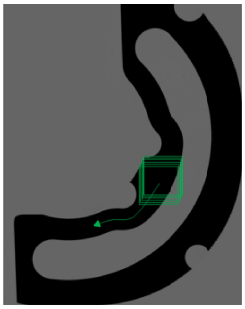
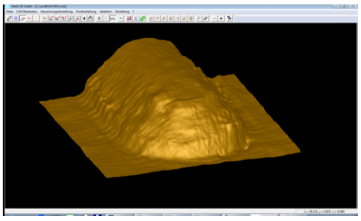
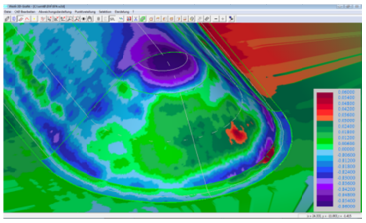
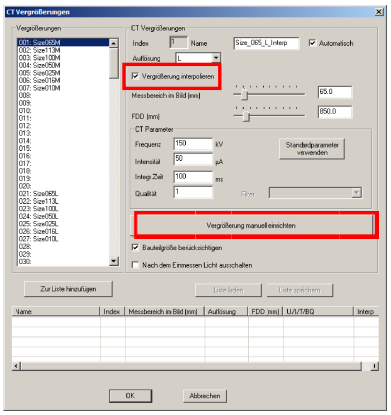
Name	Symbol	Ist / Act	Soll / Nom	+ Tol	- Tol	Abw / Dev
Abweichung	FT	1,417	0,000	1,000	0,000	1,417
Maximum_innen	FTI	0,704	0,000	0,500	0,000	0,704
Maximum_außen	FTO	0,709	0,000	0,500	0,000	0,709

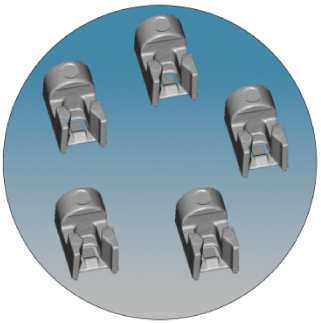
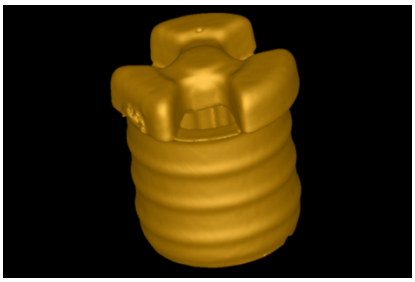
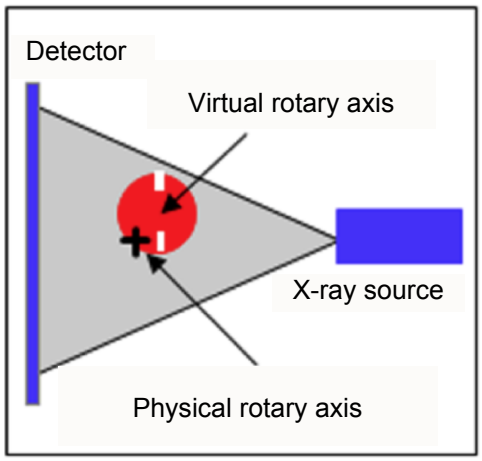
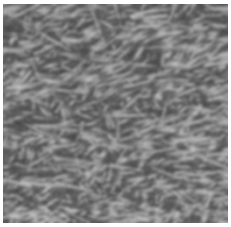
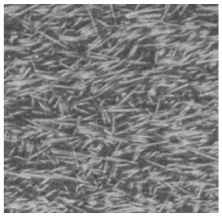
Farbkodierte Abweichungsdarstellung

Seite 1 von 1

Measurement report with table, graphic and title

WinWerth General Functions	**New Features for Loop Definition** • Loops are used for measurement of repeated elements, measurement of palleted work pieces and for GR&R tests. • Choice of the reference axis is more clearly arranged • Loop measurement using a rotary axis	Rotatory loop function  Dialog box “Loop Definition”
WinWerth for Tactile and Optical Point Sensors	**Expanded Scan Path and Point Distribution Modes for Tactile and Optical Sensors** • Input of the geometric element by choosing it on the CAD model, measurement of a minimum number of points on the work piece or input of the parameters in the toolbox “Scan Path and Point Distribution” • Automatic distribution of measurement points or scan lines on the element, depending on the element type, as raster, polyline, circle, star, outer cylinder surface lines, or helix • Selection of the measurement area, the number of the scan lines or measurement points or the distance between them • Flexible choice of display of parameters like starting point, travel path including the probe sphere, scan lines on the geometric element, search directions, probing vectors and measurement points in the graphic window • Editing using mouse or the dialog after selecting the path or the points on the element in the 3D-graphic window ***Requirement: WinWerth 3D-CAD-Modul***	 Toolbox “Scan Path and Point Distribution”  Circular point distribution in a bore hole
WinWerth for Tactile and Optical Point Sensors	**New Mode for Fast Scanning** • Scanning on pre-defined paths with scanning probes (SP25, SP80, WFP and others) with active readjustment • Deviations from the pre-defined paths bigger than the maximum permissible probe deflection are now compensated • Automatic handling of holes on the work piece • Improvement of the process reliability • Application for work pieces with bigger tolerances	 Automatic handling of holes on the work piece

WinWerth for Image Processing	**Fast Raster Scanning with pre-defined Paths** • Scanning with image processing on pre-defined contours defined by previous measurements or CAD files • Minimizing of measuring time • More accurate measurement results by overlaying and averaging the captured images • During scanning different contours are captured automatically with a high number of measurement points	 Raster scanning with pre-defined path and backlight illumination
WinWerth for Image Processing	**3D-Patch – Automatic Light Adjustment** • The intensity of illumination is automatically adjusted for the work piece surface • More reliable measurement of surface topographies with the focus variation method • Improved measurement of identical work pieces with different surfaces	
WinWerth for Image Processing	**3D-Patch/HA – Improved Performance with HDR** • Measurement of surface topographies of different materials or with widely varying slope angles within the field of view • Increase of the dynamic range (HDR – High Dynamic Range) by combining images captured with different exposure times or light intensity • Reliable detection of heterogeneous surfaces with wide variations in brightness • Powerful filters ensure process reliability even if difficult surfaces are measured	 Point cloud in STL format measured with 3D-Patch/HA  Deviation between CAD model and point cloud measured with 3D-Patch/HA (color-coded)
Computed Tomography	**Stepless Setting of Magnification** • Calibration of magnifications allows the accurate measurement of dimensions for work pieces with different sizes and varying requirements on resolution and accuracy • Stepless setting of magnifications after selecting the measurement area by interpolation • Minimizing calibration time • After positioning of X-ray sensor and work piece by joystick, the measurement area is calculated automatically and the magnification can be calibrated or interpolated • Exactly measured magnifications remain for measurements with special accuracy requirements	 Dialog box “CT Magnification”

Computed Tomography	**Work Piece Separation** • Minimizing of measurement time by simultaneous scanning of multiple identical or different work pieces (for example with option Raster Tomography) • Definition of measurement positions allows clear matching of the point clouds to the work pieces • Evaluation can be repeated as loop measurement for each position • Fast creation of programs	 Simultaneously measured work pieces can be clearly separated
Computed Tomography	**Volume Calculation** • Calculation of the volume of a point cloud, such as the injected quantity of material for injection molded parts • Functions available for combination of different calculation modes	
Computed Tomography	**Excentric Tomography (Patent)** • Avoids the disadvantage of conventional 3D tomography that the work piece must be positioned in the center of the rotary axis • A virtual rotary axis is generated in the center of the measurement volume • No need for a complicated alignment of the work piece to the rotary axis • The full size of the detector is used optimally	
Computed Tomography	**Drift Correction (Patent pending)** • Correction of drift within the tomography beam path (caused by temperature, change of work piece position etc.) – especially important for long-duration tomography • Improvement of image quality, especially for high resolution measurements • Small details such as fibers in a reinforced plastic part become much clearer	 Volume without drift correction  Volume with drift correction

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