

WENZEL

 **Metromec**

Improvements
Metro*soft* **QUARTIS**[®] **R9**

Improvements Metrosoft QUARTIS R9

At a glance

Metrosoft QUARTIS R9 offers a wide range of improvements for all users and significantly contributes to optimize daily metrology work.

On one hand, Metrosoft QUARTIS R9 increases the benefits for users measuring free-form. Points with projection onto CAD can now be measured manually without previously clicking the corresponding nominal point on the CAD model. The projection surface of the active element is colored so that it is recognizable at once. If points were projected on a wrong CAD surface, the projection surface can be easily changed with a single click while nominal values and deviations are re-calculated. The measurement of rounded edges, such as flanged sheets or castings, completes the new additional free-form functionality.

On the other hand, Metrosoft QUARTIS R9 also offers new functions for those users focusing on process integration and process optimization. Programs can now be started using barcode readers, QR code readers or quick selection codes. Product or production information from ERP or PPS systems can now be listed in reports. In order to transfer measuring results into another evaluation system, the standardized DMIS-DMO output format is available.

Metrosoft QUARTIS R9 supports more hardware, such as the ENC7480 encoder counter used in the manual WENZEL 3D portal machine XCite. XCite is the new hand-operated 3D portal machine for the fast inspection of simple work pieces and allows an economical entry into the world of metrology. The Renishaw ACR1 stylus changing system allows an automatic change of measuring probes or stylus extensions.

Metrosoft QUARTIS R9 controls up to eight measuring machines from one computer. Duplex or multi carriage machines are operated in multiple machine mode from one single Metrosoft QUARTIS license. DMIS programs control the individual carriages in CNC mode. A collision control based on dynamic safety zones ensures safe operation.

Metrosoft QUARTIS R9 works with up to date CAD interfaces. It is now possible to import CAD data in Solid Edge format. The current formats of the CAD systems CATIA V5, Inventor, Siemens NX and SolidWorks are supported.

Metrosoft QUARTIS R9 also offers many other useful improvements and extensions. More information on the following pages.

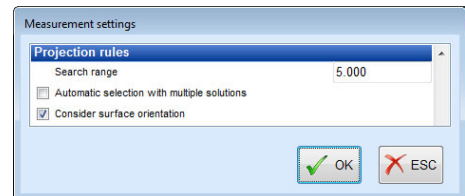
Notice:

Some improvements are not included in the standard product Metrosoft QUARTIS R9 and require additional, chargeable modules. These are described in the document „Products and Modules Metrosoft QUARTIS R9“.

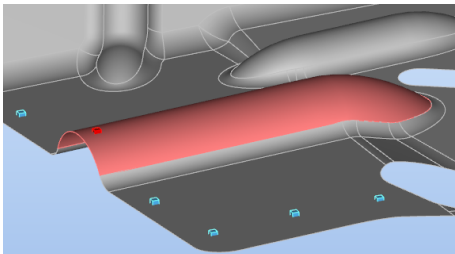
Free-form enhancements

Measure points with projection onto CAD without nominal value click

You measure points with projection onto CAD manually and want to avoid clicking the nominal point in advance. This is now possible. By doing so, the projection surface is automatically searched and selected or, if multiple surfaces can be considered, a selection dialog for the corresponding surfaces is displayed. The desired behavior can be set in the projection rules.



Colored display of projection surfaces



You measure against CAD and want to see the surface reference. The projection surfaces of the elements in the left element window are now displayed in the 3D graphics in the same color as the corresponding element. The color can be defined. Using the default color settings, the projection surfaces are displayed in red.

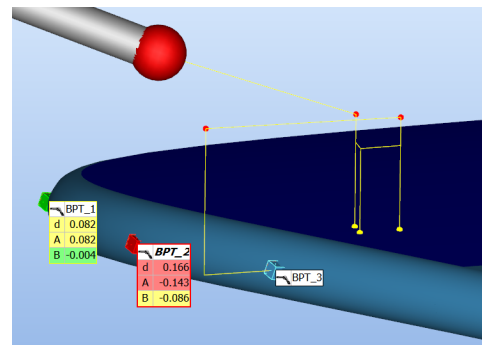
Change projection surface of a point

You want to manually measure several points against CAD on a coordinate measuring machine and check later in the graphics on which CAD surfaces the points are to be projected. Points measured with „Projection onto CAD“ can now be projected onto a different CAD surfaces with one click. By doing so the nominal values and deviations are re-calculated.

Measure flanges

You measure assemblies with rounded edges, such as with flanged sheets or castings and want to output the deviations correctly. The function „Measure edge point“ offers this possibility now:

Rounded edges can be measured with or without reference point. Analog to the perpendicular edge point, the points can automatically distributed along the flange whereby the deviation is calculated and output in two directions (trimming edge and deflection).



■ Highlights

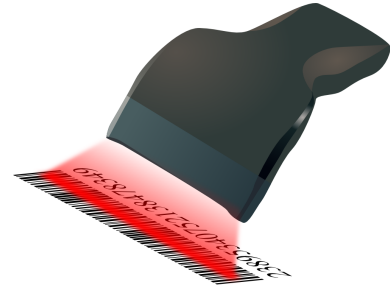
- Manually measure points against CAD without previous clicking of nominal values
- Surface reference recognizable due to coloring
- Re-project points and subsequently change surface references afterwards
- Measurement and task related evaluation of rounded edges
- Automatic point distribution along flange

Improvements Metrosoft QUARTIS R9

Process integration and optimization

Start programs using barcode reader, QR reader or quick selection code

You have integrated your machine into the process and want to automatically start the corresponding programs. It is now possible to start programs with a quick selection code via the quick selection table. The quick selection code can be read in via a barcode reader, QR code reader or additional software.



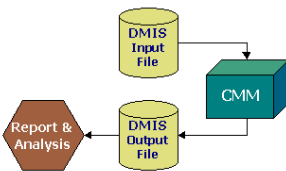
Additional information contained in a bar or matrix code, such as order number, customer, material batch, and so forth, is instantly available in Metrosoft QUARTIS and can, for example, be assigned to a user specific property and therefore be saved into the database and output in a report.

Output text data from planning systems in report



You want to output product information, for example from a ERP / PPS system, in a report. The function „IncludeText()“ makes it possible. The contents of text files can be output on any position in the report and also be saved into a machine readable file again.

Output measuring results in DMIS results file (DMO)



You use DMO files in order to transfer measuring results into an evaluation system. It is now possible to output the measuring results into a standardized DMIS results file (DMO) during the execution of a DMIS program. This applies for single as well as for multiple machine mode of Metrosoft QUARTIS.

Edit auto features in program simultaneously

You evaluate elements directly during the measurement and want to be able to adjust these auto features fast and easily when tolerances change. It is now possible to adjust the auto features of multiple elements within the program in just one step. By doing so, tolerances can be changed and components selected/deselected.

■ Highlights

- Start measuring programs via barcode or QR code reader
- Start measuring programs via quick selection code, where appropriate also remotely from other software products
- Output process information from bar and matrix codes as well as text data in measuring reports
- Result output in DMIS-DMO format (during the execution of DMIS programs)
- Comfortable adjustment of tolerances and evaluated components for multiple elements in a measuring program

Expanded hardware support

Manual 3D portal machine XCite

Metrosoft QUARTIS R9 supports the ENC7480 encoder counter which is used in the manual WENZEL 3D portal machine XCite. The user interface is automatically adjusted - just as with the WPZ 50 and WPZ 100 - and only displays the functions available for a manual machine.

XCite is the new hand-operated 3D portal machine for the fast inspection of simple work pieces and allows the economical entry into the world of metrology.



Renishaw ACR1 stylus changing system

The ACR1 stylus changing system with 8 rack ports for the automatic change of measuring probes and stylus extensions with auto joint is now supported.



The ACR1 stylus changing system is operated using an ACC2 control unit (auto change controller) in STAND-ALONE mode, thus without RS232 connection to the software. The screwing process for fixing or loosening of the auto joint is started after a waiting time that can be defined in the ACC2 box.

■ Highlights

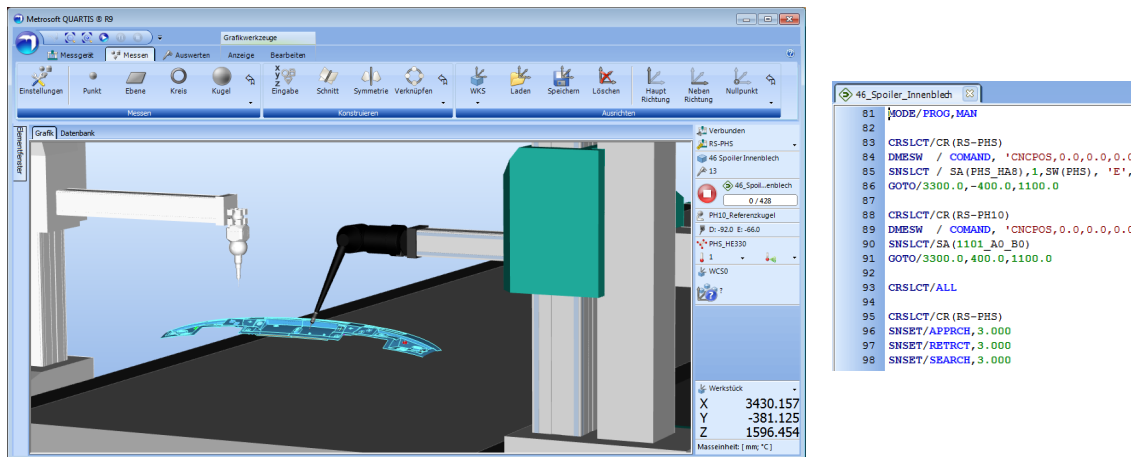
- WENZEL XCite machine for manual measurement with Renishaw probe systems
 - XCite CMMs manufactured from granite are free of internal tensions and extremely wear resistant
 - Space saving compact design for greater flexibility
 - Data compatibility with all other WENZEL systems
 - Fine tuning for each axis and individual axis locks allow accurate positioning and precise detection
 - The guide way of the Y-axis is fitted with bellow type covers to protect against contamination from dust and dirt
- ENC7480 encoder counter on PCI slot for manual machines
- Renishaw ACR1 stylus changing system for the automatic change of measuring probes or stylus extensions

Improvements Metrosoft QUARTIS R9

Multiple machine mode

Metrosoft QUARTIS controls multiple machines

You use duplex or multi carriage measuring systems and simultaneously measure the same work piece with multiple carriages. It is now possible to control and operate up to eight machines from one single Metrosoft QUARTIS license.



Couple machine - creates a common coordinate system basis

By coupling machines, elements that are measured with different carriages are stored in one identical coordinate system and therefore have the same basis for the evaluation.

DMIS measuring programs for multiple machine mode

Individual carriages are controlled via DMIS programs in CNC mode. The DMIS command CRSLCT (carriage selection) assigns the device specific program parts to the correct machine.

With the implementation of the multiple machine mode further generally useable DMIS commands were realized. DMIS programs that were created offline with Audimess or iDA for Metrosoft CM can now also be executed in Metrosoft QUARTIS.

Collision detection with dynamic safety zones

The collision detection with work piece (CAD model) has been available in Metrosoft QUARTIS since version R1. In multiple machine mode you can now also avoid collisions between the machines or between probe and surface plate of the same machine.

The collision control is based on dynamic safety zones that are automatically placed around the probe system configuration and machine components. If two hardware components approach more than the safety distance, the machines are stopped.

■ Highlights

- One Metrosoft QUARTIS controls up to eight CNC machines via DMIS programs
- Operation of a coupled duplex or multi carriage system from one PC
- Collision control with dynamic safety zones

Further improvements

The following useful functions have been added in Metrosoft QUARTIS R9:

- The CAD interface for CAD data in Solid Edge format (version 18 - ST5) are available again.
- The following CAD interfaces have been updated to the most current version:
 - CATIA V5 (version R6 – R23)
 - Inventor (version V11 – 2013)
 - Siemens NX (version NX1 – NX8.5)
 - SolidWorks (version 2003 – 2013)
- Additional machine models are available for the display in the 3D graphics.
- Spheres can now be scanned using only two (instead of three) axial lines.
- Coaxiality evaluation of a cone depends now on the effective length symmetrically placed around the center of gravity of the element (just as with the coaxiality of a cylinder).
- For the construction of offset planes one can now select planes (additional to point elements).
- Function „Mirror program“ optimized:
 - Message that sub programs have not been mirrored.
 - Position machine in MCS is not mirrored anymore.
- Move blending for machine motion paths commands.
- Motion paths for SP80 stylus change with SCP80 stylus change port optimized.
- Calibrate PHS: Position angles can be changed during the calibration.
- Probe system capability: file name extended with time stamp.
- Relative measurement is activated by default with reference „Measure“.
- Operation via Remote Desktop Connection (operating system function) possible.
- The graphics view within the report has been expanded with the following functionality:
 - Arrowheads can now either point towards actual or nominal values.
 - Only features with actual values are displayed in the selection dialog.
 - Point labels can now also display element data.
 - Statistics labels can display actual values or deviations.
 - Function "Set standard" expanded:
 - Connection lines to data labels: line width, color and form of line end.
 - Graphics view: Tab „Settings“ from the „Content“ dialog.

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