

**WENZEL**

 **Metromec**

Improvements

Metro**soft** **QUARTIS**® R15

# Improvements Metrosoft QUARTIS R15

## At a glance

Metrosoft QUARTIS R15 offers a wide range of improvements for all users and significantly contributes to optimize daily metrology work.

Metrosoft QUARTIS R15 offers significant advantages for the creation of elements by construction functions with an unified user interfac in the ribbon. During construction the results are shown in the graphics via live preview. The construction of surfaces using curves offers additional application-technical benefits for the solution of your measuring tasks.

Metrosoft QUARTIS R15 contains additional functions in the work window "Feature data" to display the results directly in a clear way before the report is created at the end of the measurement program. The group "Status" displays the number of features within or outside the tolerance in form of a signal light (red – yellow – green). You can control the program execution depending on the measuring results and decide whether to proceed or stop the program.

Metrosoft QUARTIS R15 supports additional probe heads, sensors, rotary tables and mobile machines. The optical 3D sensor PHOENIX II measures the position of welding points on car body parts. The Renishaw PH10-iQ probe head increases the availability of the machine by reducing the calibration time drastically. Clamped as well as numerically controlled rotary tables are supported. The FARO USB interface enables the usage of portable FARO measuring arms.

Metrosoft QUARTIS R15 contains additional functions for measurement preparation. Auxiliary elements can be inserted into the CAD model to carry out measurement tasks efficiently and reproducibly.

Metrosoft QUARTIS R15 offers, besides the updated CAD interfaces, many additional improvements and extensions. You find more information on the following pages.

### **Note:**

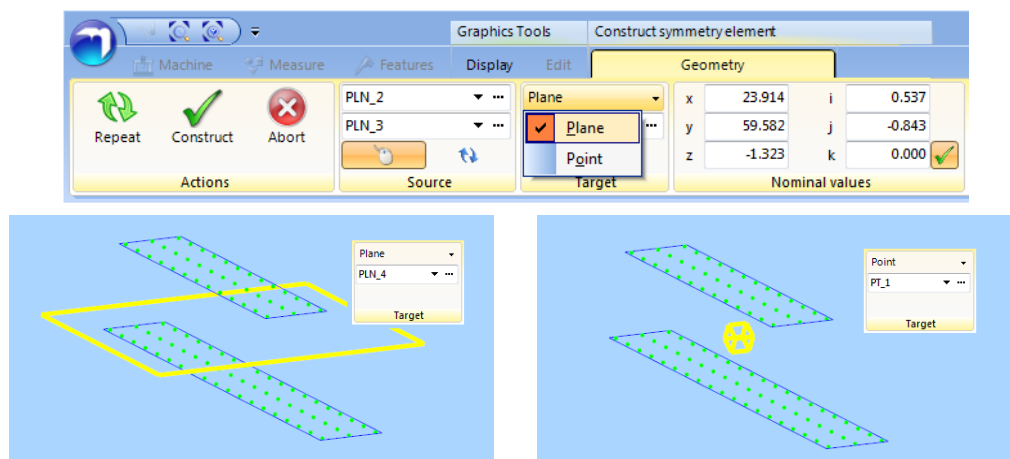
Some improvements are not included in the standard product Metrosoft QUARTIS R15 and require additional, chargeable modules. These are described in the document "Products and Modules Metrosoft QUARTIS R15".

## Constructing elements using the ribbon interface

### Advantageous, unified operation within the ribbon with live preview

You create elements, which cannot be probed, with construction functions. Seven additional constructions can be operated via ribbon. This results in decisive advantages when programming and resolving measurement tasks.

Calculated elements are shown in the graphics via live preview during construction. This shows whether the construction is executed as needed by the user. If the construction delivers different results, they will be displayed in the group "Target" and can be selected.



### Constructing surfaces using curves

You measure individual intersection curves on surfaces and would like to evaluate an additional tolerance of a surface profile. With the construction "Construct" you can construct surfaces using curves.

#### ■ Highlights

- Comfortable construction of the elements by a uniform handling in the ribbon: Intersection, Symmetry, Connection, Projection, Parallel, Perpendicular, Construct, Extract and Input
- Live preview during construction ensures correct application



- Expressions in the IDs allow unrestricted application in loop programs
- You can change all parameters when editing program sentences and executing programs with parameter modification
- Nominal values are calculated automatically using the source elements and can be adjusted if necessary
- You can click the elements to be created directly in the CAD model using the construction "Input"

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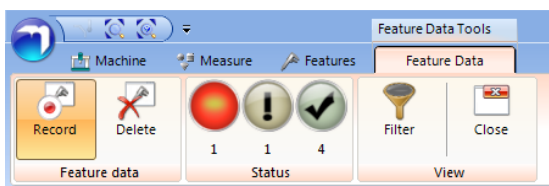
## Check feature data

### Additional functions in the work window Feature data

You use the work window "Feature data" to display the results directly in a clear way before the report is created.

Graphics		Feature Data					
Feature Elements	<b>3/ - Perpendicularity tolerance</b> PLN_20; Ref.:PLN_1						
Actual value	Nominal value	UTol	LTol	Deviation	Assessment		
0.090	0.000	0.100		0.090	90%		
Feature Elements	<b>4/ - Perpendicularity tolerance</b> CVL_1; Ref.:PLN_6						
Actual value	Nominal value	UTol	LTol	Deviation	Assessment		
0.046	0.000	0.100		0.046	46%		
Feature Elements	<b>5/ - Diameter</b> CVL_1						
Actual value	Nominal value	UTol	LTol	Deviation	Assessment		
17.025	17.000	0.018	0.000	0.016	175%		

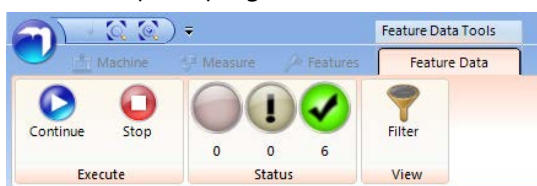
The group "Status" displays the number of features outside the tolerance, within the warning limit and within the tolerance in form of a signal light (red – yellow – green). The new function "Filter" reduces the display to features outside the tolerance. The functions "Record" and "Delete" are recorded in the program.



- Start recording feature data
- Stop recording feature data
- Delete feature data

### Control program run

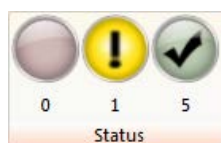
You would like to control the program run depending on the measuring results and decide whether to proceed or stop the program. To do so record the corresponding program functions.



- Check feature data (outside tolerance)
- Check feature data (outside warning limit)
- Check feature data

### ■ Highlights

- Quick overview of feature data in the form of a signal light



- Filter function reduces the display of feature data to features outside tolerance
- Control program run of QUARTIS- and DMIS-programs (DMESW-commands PROTONEW and PROTOCHECK)

## Sensors and peripheral machines

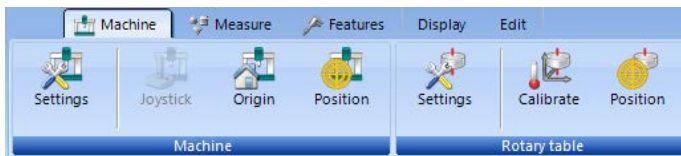
### WENZEL PHOENIX sensor measures welding points

The optical 3D-Sensor PHOENIX II now records in one operation the position of welding points on car body parts.



### Supporting CNC rotary table

You work with a machine using a CNC rotary table. Metrosoft QUARTIS R15 offers the functions needed to calibrate and position a clamped or controlled rotary table.



### Supporting Renishaw PH10-iQ

The CAA compensated Renishaw PH10-iQ probe head is supported. You can use all 720 positions after calibration of only a few angle positions with this probe head without calibration of each single position.



### FARO (USB) measuring arm

The FARO USB interface is available for operating portable measuring arms. Among others, following arms are supported: Edge, Fusion, Prime, Platinum, Quantum, Titanium and Advantage.

## ■ Highlights

- Measure welding points with PHOENIX II sensor
- Calibrate CNC rotary table and use as positioning axis
- Renishaw PH10-iQ increases the availability of the machine by reducing the calibration time drastically.
- Operate portable measuring arms with FARO USB interface
- Calibrate scanning probes optimally with high accuracy according updated Renishaw guidelines
- Calibrate more clearly probe systems with indexed rotate and swivel head
- ISO 10360-4 capability with customizable filter provides application conform checking of the probe system

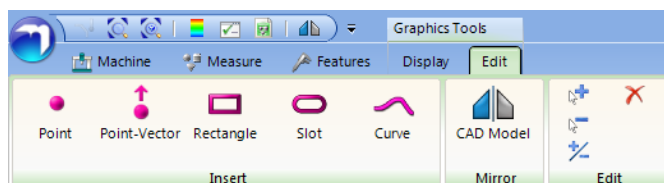


# Improvements Metrosoft QUARTIS R15

## More improvements

In Metrosoft QUARTIS R15 are numerous additional helpful functions available:

- Following **CAD interfaces** were updated to the newest version:
  - Inventor (V11 to 2017)
  - Parasolid (10 to 29)
  - Solid Edge (18 to ST9)
  - SolidWorks (2003 to 2016) – 2015 and higher only available in Metrosoft QUARTIS (64-Bit)
- As measurement preparation you would like to **insert auxiliary elements into the CAD model** to perform the measurement task efficiently and reproducibly. The elements point, point-vector, rectangle and slot can be insert with different methods.



- You work with large CAD models and therefore need more working memory. Metrosoft QUARTIS R15 can be installed and operate as **64-Bit Version**.
- You work on a duplex measuring system and execute DMIS programs in **multi machine network**. You benefit from following improvements:
  - GOTO/INCR,dist,i,j,k is supported, resulting in a relative approach of intermediate points
  - TEXT/DIALOG is allowed also in device-specific program sequences
  - Save F() as theoretical element
  - Two DMO files, one from the left and one from right carriage, can be merged into one DMO file
- You can optionally change the measuring distance and search distance or move the coordinate system with the **Program Error Handling** when error messages occur after collisions or not found probe points.
- **Korean** can be selected as dialog and report language. Thus, 16 languages are available for the user interface.
- For **Q-DAS export**, the mandatory fields can no longer be deselected.
- The supported **DMIS command set** has been enhanced by the intrinsic function EOLN(DID(Iname1)).



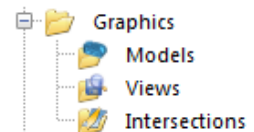
- More **WENZEL machine models** and dimensions can be configured for displaying in 3D graphics. Following machine models were added:
  - WENZEL XOrbit (2G) 55 (700, 1000)
  - WENZEL XOrbit (2G) 87 (1000, 1500, 2000)
  - WENZEL XOrbit (2G) 107 (1200, 1500, 2000)
  - WENZEL LHF (3G) 2517 (3000, 4000, 5000, 6000)
- **Report tables** with features, which have been created directly during measuring the elements, can be output in a compact and clear form.

ID	Element type	Nominal value	ISO 286	Reference	Probe points	R	Description	Actual value	Dev	%Dev	Graphics
PT_1: Point, Projection onto CAD, measured											
Nominal values											
1											
A	PT_1_A, Position dAB [A]	0.000		0.100	-0.100			-0.006	-0.006	-6%	<input type="checkbox"/>
B	PT_1_B, Position dAB [B]	0.000		0.100				0.000	0.000	0%	<input type="checkbox"/>
d	PT_1_d, Position dAB [d]	0.000		0.200				0.006	0.006	3%	<input type="checkbox"/>
x	PT_1_x, Position [x]	583.145		0.100	-0.100			583.145	0.000	0%	<input type="checkbox"/>
y	PT_1_y, Position [y]	-764.277		0.100	-0.100			-764.283	-0.006	-6%	<input type="checkbox"/>
z	PT_1_z, Position [z]	132.416		0.100	-0.100			132.417	0.001	1%	<input type="checkbox"/>
PT_2: Point, Projection onto CAD, measured											
Measuring											
1											
A	PT_2_A, Position dAB [A]	0.000		0.100	-0.100			0.015	0.015	15%	<input type="checkbox"/>
B	PT_2_B, Position dAB [B]	0.000		0.100				0.002	0.002	2%	<input type="checkbox"/>
d	PT_2_d, Position dAB [d]	0.000		0.200				0.015	0.015	7%	<input type="checkbox"/>
x	PT_2_x, Position [x]	583.167		0.100	-0.100			583.169	0.002	2%	<input type="checkbox"/>
y	PT_2_y, Position [y]	-760.963		0.100	-0.100			-760.961	0.011	11%	<input type="checkbox"/>
z	PT_2_z, Position [z]	127.686		0.100	-0.100			127.676	0.009	9%	<input type="checkbox"/>

- The colors of **templates** for reports, tables and boxes have been revised and updated. All layouts have a plain and uncolored design.
- **Lines** can be measured with reference "Nominal value". This is useful for measuring roughness with the REVO SFP1 roughness sensor and lines laying slanted to the coordinate system.

Coordinate	Value	Coordinate	Value	j	
x	107.402	x2	107.342	i2	0.747
y	10.080	y2	1.530	j2	0.000
z	-10.000	z2	-10.000	k2	0.665

- In the database **CAD models** can be copied from one work piece to another. This was already possible for views and intersections.



- The reliability has been enhanced for **backup and compression of databases**.
- Via **quick selection code** you can transfer complete data matrix codes and use included information like part number and name, revision status, order number, material charge etc. in Metrosoft QUARTIS.

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