

What's new in RheoWin

Version 4.91.0021

(Released 17.08.2023)

Below is a list of things that are new and/or changed in version 4.91.0021 compared with version 4.91.0011 of RheoWin.

Installation

New option Tribology

- In order to be able to use the new measuring geometries for Tribology and the corresponding RheoWin features the *new Tribology* option (order no. 098-5082) must be installed.
- This option is automatically installed when using the installation key 098-5019 for all instruments (this key is for Thermo internal use only).

Example Job files

- The example job and data files have been updated and extended.

Quantities and Units

- The following new sub-quantities have been added: The sliding distance **Sd**, a quantity used in Tribology.
- The following new quantity has been added: The Hershey number **He**, a dimensionless quantity used in Tribology.

DeviceManager / Device drivers

VT iQ and VT iQ Air (redesigned versions)

- Reading temperature Offset tables from the instrument did not work correctly, this has been solved.

Measuring Geometries

- RheoWin is now compatible with the 5 new Tribology geometry types:
 - TR 13 B3P, ball on 3 plates,
 - TR 13 B3D, ball on 3 discs,
 - TR 13 B3B, ball on 3 balls,
 - TR 12 3BP, 3 balls on plate,
 - TR xx RP, ring on plate, xx stands for various different ring diameter.
- RheoWin is now compatible with the new Solid Clamps Cylindrical SCU1-7 C-O/SS geometry type.

JobManager

Monitor/Manual control window

- Under certain rare circumstances the Monitor/Manual control window would freeze. This has been solved.

JobEditor

- The 5 new Tribology rotor types are based on the new Tribology Connect Assist adapter. This adapter and thus the Tribology rotors are handled in the JobEditor like all other ConnectAssist adapters.
- When a Tribology rotor is detected the operator can enter a viscosity value which is needed for the calculation of the Hershey number.

- When the Solid Clamps Cylindrical rotor SCU1-7 C-O/SS is detected the operator can enter the diameter value of the sample.

Tribology in measurement elements

- The calculation of tribological relevant measurement data is currently implemented in the following ROT measurement elements:
 - Rotation Time curve
 - Rotation Ramp
 - Rotation Stepped-Ramp
 - Rotation Temperature Ramp
 - Rotation Temperature Stepped-Ramp
- When a Tribology type geometry is selected, the editors of these element automatically switch into "tribology mode". In "Tribology mode" the set values are the circumferential velocity v_R (in CR-mode) and the friction force F_f (in CS-mode) instead of $\dot{\gamma}$ (in CR-Mode) and τ (in CS-Mode).

Set element

- For the MARS 40 and MARS 60 the CR mode control settings and the CD mode control settings are now send to the instrument separately as two sets of parameters and can thus both be used in one Job.

Note Firmware version $\mu P2$ (Box DSP) 50.24.000 or higher, is needed for this to work.

ROT Time, OSC Time, OSC Temperature Ramp, OSC Temperature Steps elements

- In the editors of these elements the [Extern](#) page containing the [Trigger](#) functionality is now also available for the MARS iQ and MARS iQ Air.

OSC Frequency Sweep element

- In the VT iQ (Air) the OSC Frequency sweep with a linear frequency distribution did not work. This has been solved.

OSC elements

- For the MARS iQ and MARS iQ Air the start of the OSC elements was optimized.

MultiWave element

- Under certain circumstances the Multiwave element did not work correctly, this has been solved.

Curve fit element

- The min and max values for the x range, in the [Range](#) area of the [Select data](#) page, can now be entered as R_IDx_Pyy_z result parameter names.
- While hovering the mouse pointer over the [Name](#) and [Value](#) list items in the [Parameter](#) area of the [Layout](#) page, a tool tip will now display the R_IDx_Pyy_z result parameter name for the result value.
- The the [X at Y=0](#) value and the three [Y at X=](#) values are now also available as R_IDx_Pyy_z result parameter.
- While hovering the mouse pointer over the [X at Y=0](#) and the three [Y at X=](#) items in the [Numerical](#) area of the [Layout](#) page, a tool tip will now display the R_IDx_Pyy_z result parameter name for those result values.

Interpolation element

- The min and max values for the x range, in the [Range](#) area of the [Select data](#) page of the element editor, can now be entered as R_IDx_Pyy_z result parameter names.
- The values in the first column of the [Quantities + Result](#) table on the [Data/Method/Result](#) page can now be entered as R_IDx_Pyy_z result parameter names.
- Instead of (useless) numerical values in the [Quantities + Result](#) table on the [Data/Method/Result](#) page of the element editor, the R_IDx_Pyy_z result parameter names for each of the defined results are now displayed.

Curve Discussion element

- The R_IDx_Py_z parameter names for the [Mean](#) value calculation were not correct and have been modified. Under circumstances it may be necessary to adapt existing Jobs accordingly.

Advanced Curve Discussion element

- For the [Tangent intercept](#) method the [Range min](#) and [max](#) values for the two Tangents can now be entered as a numeric value or as a R_IDx_Pyy_z result parameter name.

Crossover element

- While hovering the mouse pointer over the check-box items in the [Numerical](#) area and the [Specials](#) area of the [Layout](#) page, a tool tip will now display the R_IDx_Pyy_z result parameter name for the result value.

Math element

- While hovering the mouse pointer over the Result name edit fields on the [Calculation](#) page of the element editor, a tool tip will now display the R_IDx_Pyy_z result parameter name for the result value.
- The R_IDx_Py result parameter names of the Math element itself can now also be used in the [Operand](#) edit fields (as far as the internal element logic allows).

DataManager

Modify/Transform/Add data

- There is new function [Add to ROTdata: Hershey number \(Tribology\)](#)
Using this command the Hershey number He can be calculated for existing Tribology measurement data. The operator is asked for the viscosity value which is needed for the calculation. The new data is automatically saved in the selected file.

Mean&Merge evaluation

- The button for loading a graph template on the Layout/Options page was not functional. This has been solved.

Spectra calculation

- The settings used for the Spectra calculation are now displayed in the Protocoll/Info window.

MWD calculation

- The displayed result values of Me and Mc were wrong by a factor of 1000. This has been corrected.

Reports templates

MessageLine variables

- The [MessageLin \$x\$](#) (with $1 \leq x \leq 5$) variables for report templates did not work in an evaluation-only Job where data is loaded into the Job by the [File load](#) element. This has been solved.

Temperature Calibration program

New version

- Some bugs were fixed in the new version 2.1.0.22 which is part of this RheoWin version.