

2013

MICROTEST

TRIBOTESTER MT

Control, Measurement and data Acquisition Software for Tribological Testing Systems.

MICROTEST



MICROTEST, S.A.

Instruments and Equipments for Materials Testing
(+34) 91 796 33 32

www.microtest-sa.com





Introduction.

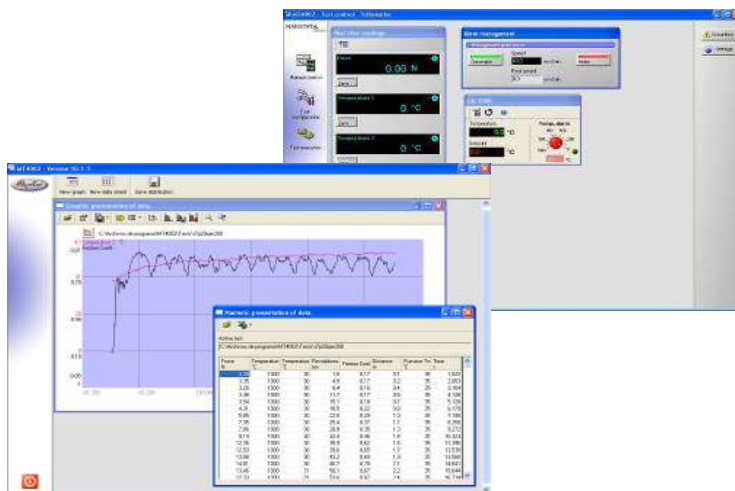
The TRIBOTESTER MT is the software designed by MICROTTEST for control, measurement and data acquisition in **Tribological Testing Systems**.

This software has been thought to fulfill almost every customer need in standard tests or to adapt the testing machine control in order to perform special applications.

The system allows the user to work in manual mode, similar to a simple classic control in testing machines, or in automatic mode, running predefined test methods in an automatic way. This mode gives an extraordinary flexibility, making possible complex operations, minimizes the possibility of committing mistakes during the test and also makes easier the routine operations.

The TRIBOTESTER MT software provides computer based sequence programmable control and data acquisition.

Tests can be defined by a sequence of steps, each step containing parameters as set-point, number of cycles, speed, data recording rates and alarm level information. Set-points may be adjusted by step change or ramp. The test sequence is followed unless interrupted by the operator or an alarm. Set-points may also be adjusted manually using on screen toggles.

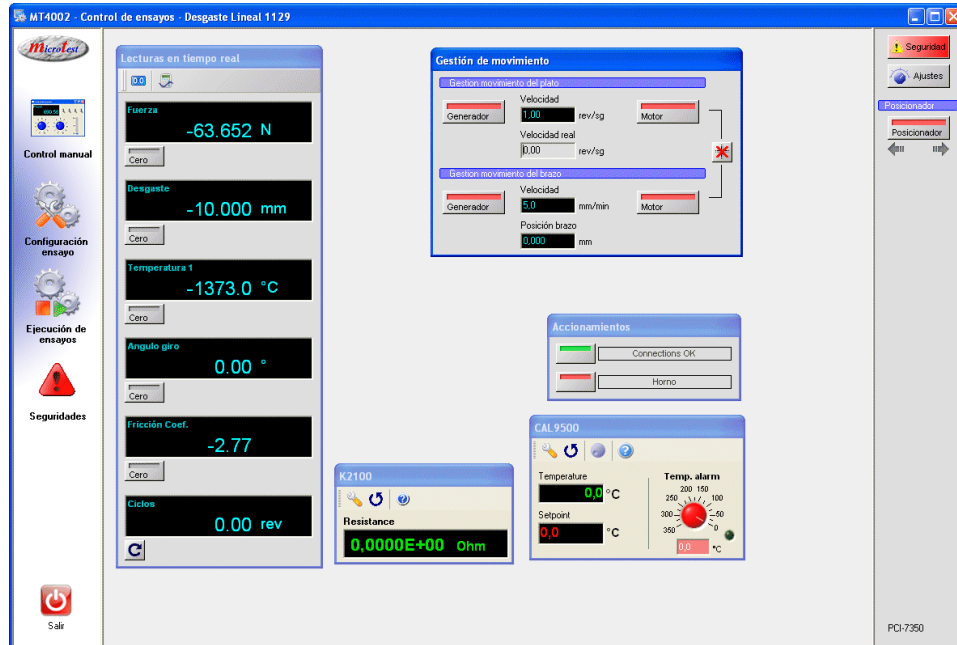


Selection of the control commands: frequency, number of cycles, etc. The preset timer built in software stops the machine after a set time.

TRIBOTESTER MT software includes various sub-set modules allowing the possibility of custom-made test sequences as well as tailored configuration for every MICROTTEST testing system: sensor capacity, number and type of sensors, resolution, units, etc.

The software is also available for other tribometers upgraded by MICROTTEST.

Specific software TRIBOTESTER MT includes a complete set of customized tools for tests run with MT test equipment.



- Real time acquisition of horizontal force, frictional coefficient, wear rate, changes on contact resistance, and temperatures¹
- Accurate turning radius selection
- Fine control over rotational axis speed
- Accurate control through TRIBOTESTER MT software of each channel
- Pre-installed sequences either rotational and linear wear test
- Easy programming on of more detailed test's sequences
- Full customization for each user
- User control access
- Powerful report generator
- Direct link with Microsoft® Excel for further test analysis

¹ See optional elements

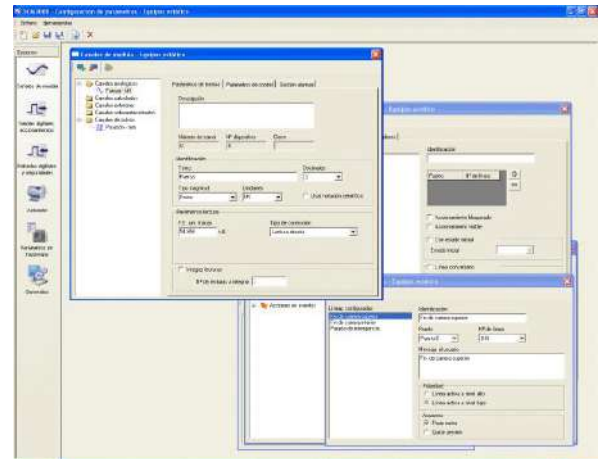
Configuration.

The Configuration module allows the user to adapt the tribometer system to the needs of every testing system: number of measuring channels, type of sensors, resolution, units, labels, etc, according with the system in which the software is to be used.

It allows also the creation of user's channels. That is, channels obtained as the result of a combination of other existing channels and parameters by means of a mathematical formula like, for instance, the frictional coefficient during the test.

It is also possible the definition of automatic reconnaissance of the connected sensor by the system.

Different configurations can be defined, stored and managed for a given testing machine or system, according to the testing needs.



Control Panel

Direct Control of the Tribometer.

The control Panel module allows the user to interact with the testing system through a classic control panel.

The Control Panel gives direct Access to the whole set of functions and servo-control of the testing system, different axis can be synchronized, the possibility of data acquisition, real time display of the measuring channels, the execution of automatic pre-defined tests, etc.

The graphic display of this Control Panel is also configurable.

The user can also connect and managed third part devices, as: temperature



controllers, digital multi-meters, image cameras, etc.



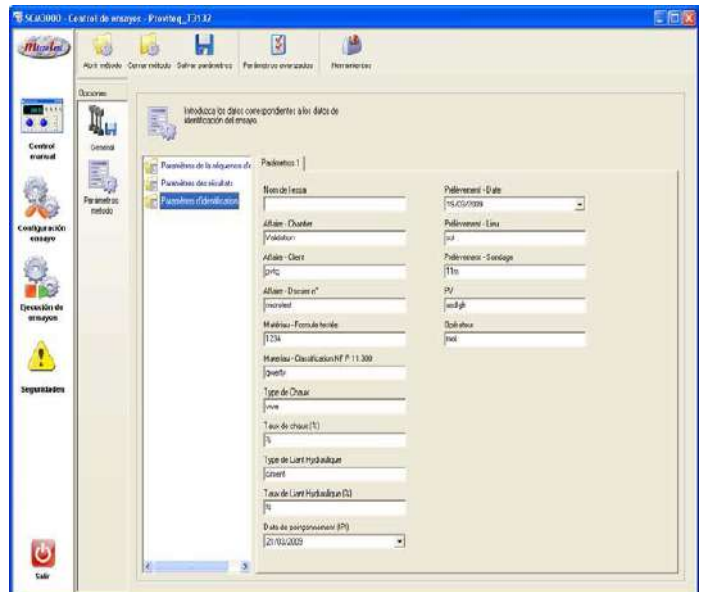
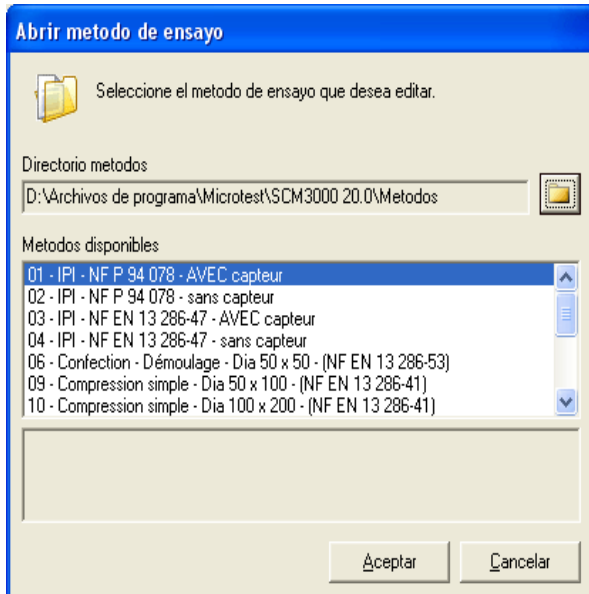
Tests configuration

With only two clicks the user can have the TRIBOTESTER MT ready to run a test with direct output of results.

The selected method is previously tailored if necessary through the pre-configured parameters, according to the test procedure, by means of the Method Editor.

The user can add any desired parameter to completely identify the test procedure to be performed.

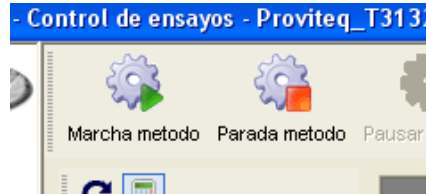
- Test management data.
- Identification data for the test sample.
- Others.
- Calculations Library



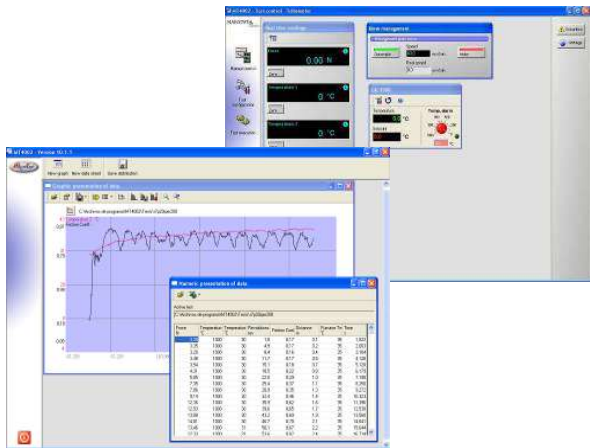
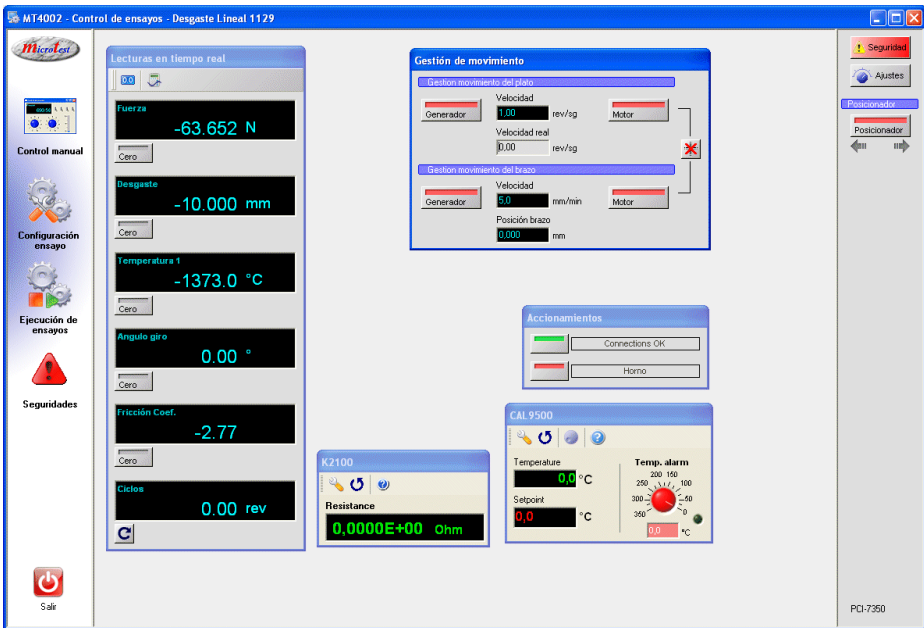


Running a test

Only one click is all the user needs to run a test. The test method, comprising the sequence, calculations and recording, automatically will perform all the necessary operations in the testing machine and will guide the user during this process.



The test execution mode allows the user to configure the different displays and graphs to be shown during the test.

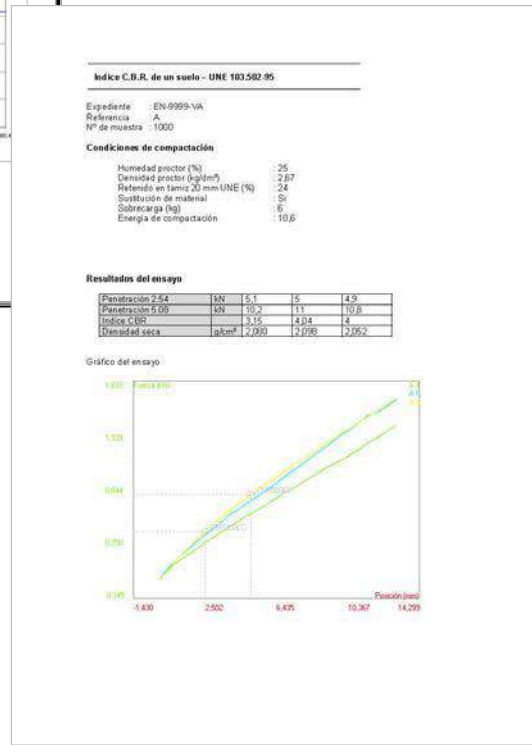
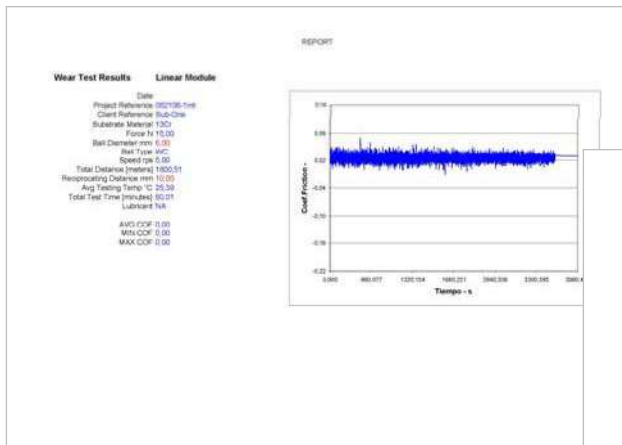
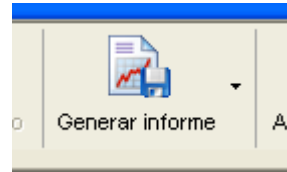




Test reports

It is possible to obtain a test report just after the test ends up.

The report can be customized by the user through Microsoft Excel, creating templates. According his needs he can apply different report formats.





Integrated management of different devices.

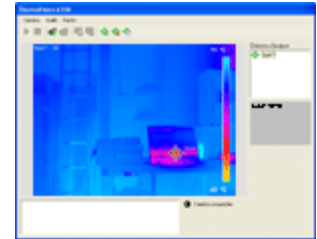
TRIBOTESTER MT software allows direct management of different control and measurement devices from a single working environment. As an option and under demand, TRIBOTESTER MT can link to third part system to include the information this devices provide into the test data files: signal from other sensors, controllers, images, etc.

For example:

IR camera management

Contactless temperature measurement from an IR camera can be added to the recorded data or can be shown during the test.

In this case it is possible to have a recording of the temperature values in different points of the sample and simultaneously a set of thermo-graphic pictures from the sample.



Third part devices management

Under demand it is possible to add the management of temperature controllers, digital displays, data acquisition hardware, etc



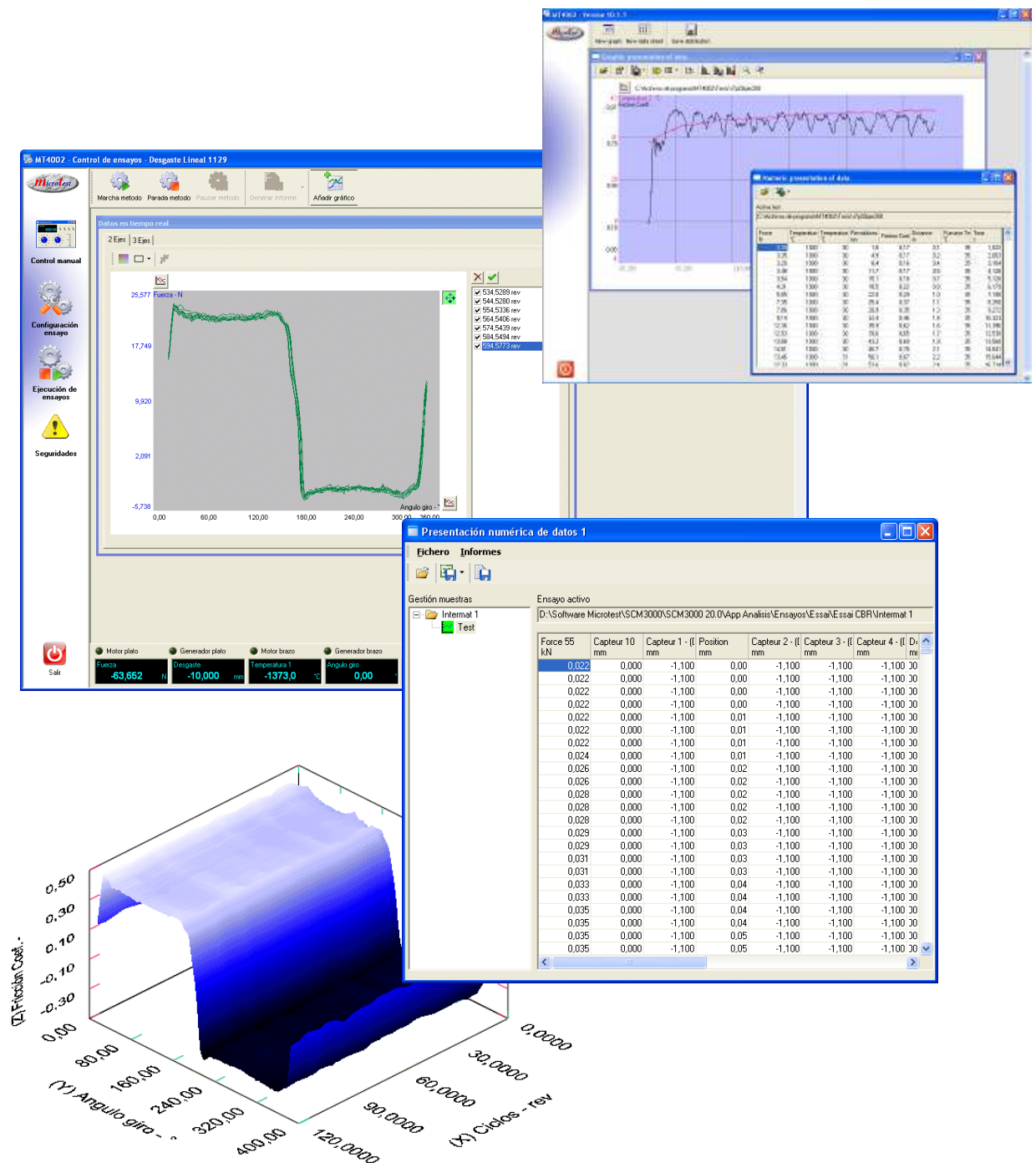


Data Analysis

The performed tests can be later processed by means of this data recovering and analysis module.

By means of this module, the user can: compare different tests, display the graphics in different ways, analyze the numerical data in tables, export the data to different file formats to be post-processed.

A statistical analysis can also be performed from the results obtained in a set of similar tests (same method).

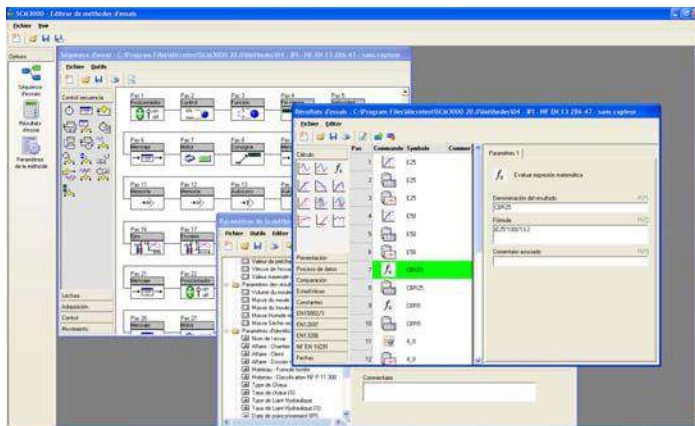


Test Method Editor.

The Test Method Editor is a powerful tool that allows the user the creation of test procedures and automatic sequences to be run later in the Control Panel..

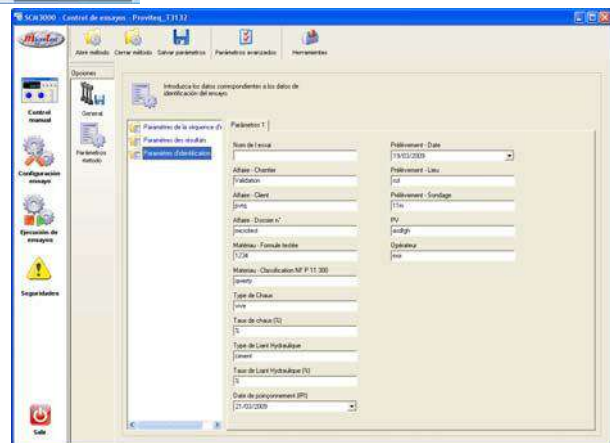
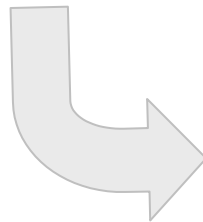
By means of different options the user can:

- § Establish the sequence of operations to be run by the system in the Control Panel.
- § Define all the necessary parameter to identify and tailor the test method: sample characteristics, test parameters, calculation parameters, etc.
- § Define the results to be calculated and be displayed during the test.



The user creates the test method according a procedure or standard, to be run later in the Control Panel.

It is possible to create and execute standardized methods as well as personalized methods.



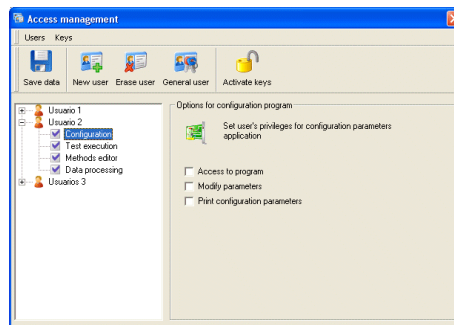
There is a high flexibility to choose from an extensive list of calculations and functions to analyze the test data. Once the calculations have been made the results can be recalculate by changing the corresponding parameter in the Analysis Module, updating results, tables and graphs.



User Management.

It is possible the activation of the Access control in the TRIBOTESTER MT software, limiting the use of parts of the software and the privileges of different users.

When User Management is activated, only authorized technicians have access to TRIBOTESTER MT and prevent their access to method editing and administrative changes.



Computer Requirements (minimum)

- Intel Pentium (Dual Core or Single Core) Processor with 2 GHz or faster clock speed
- 1 GB RAM or more
- Microsoft Windows 7 Professional (32 bit) or Windows XP Professional with Service Pack 3
- Microsoft Internet Explorer 7 or later
- CD or DVD Drive
- Hard Drive with at least 1 GB free space
- Minimum display resolution: 1024 x 768 high color
- 1 unused serial port (for ASMD only)
- 1 unused Ethernet port.
- Screen resolution: 1280x768

MICROTEST, S.A.

C/ Valle de Tobalina, 10 28021 – MADRID (Spain) Tel.: (+34) 91 796 33 32
microtest@microtest-sa.com <http://www.microtest-sa.com>