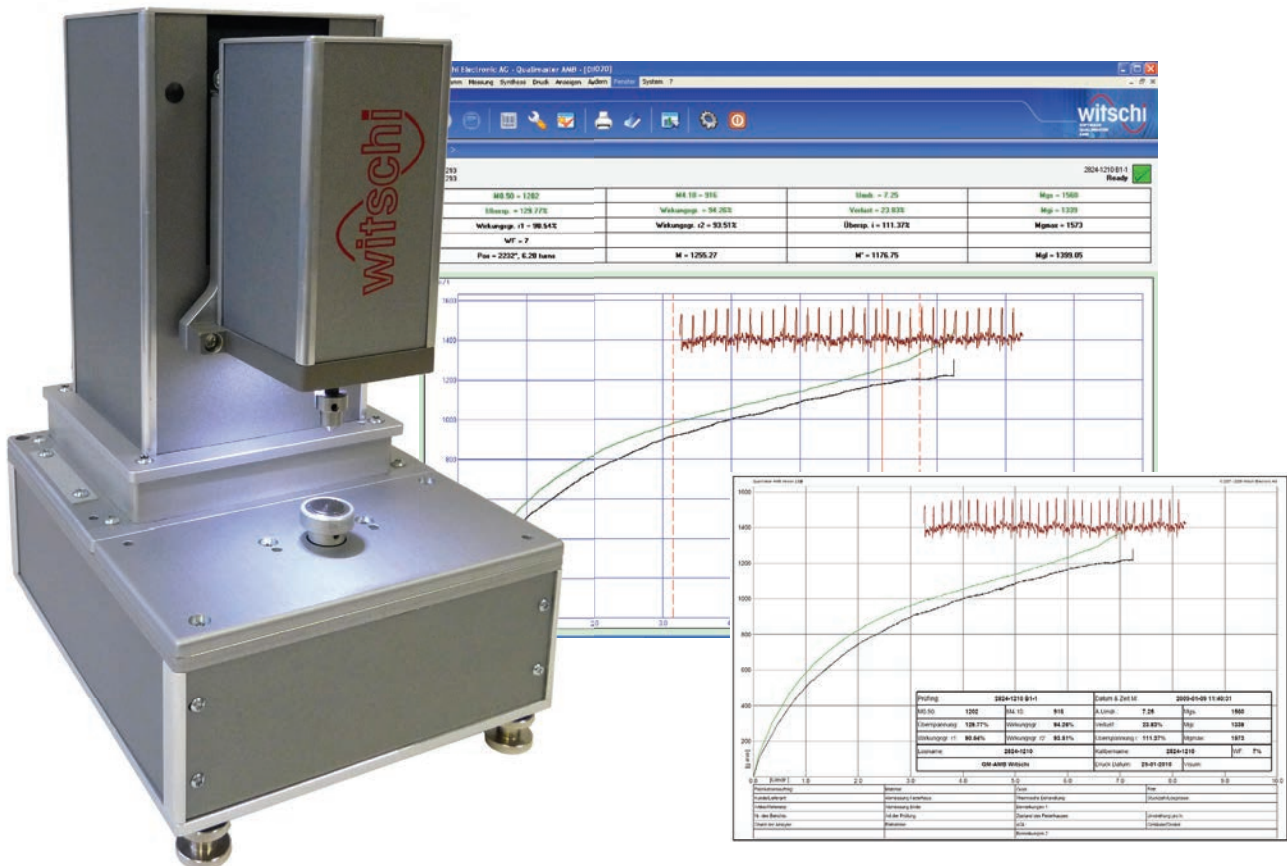


Qualimaster AMB



For testing Barrels

The Qualimaster AMB is the reference measuring instrument for barrels of mechanical watches with manual and automatic winding. Ease of use, reliability and measuring safety are the outstanding features of this instrument. Equipped with all functions needed for testing barrels in production and in the laboratory. Individual settings of the test sequences.

Efficient use and management of parameters and results through networking with the WiCoTrace database (for Witschi measuring instruments). Connection by USB to a standard PC for up to 4 measuring heads. High investment security and long-term efficient maintenance guaranteed by modular design, components developed and manufactured by Witschi.

Witschi Electronic Ltd

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Description

All key values for qualifying a barrel can be measured and evaluated with respect to tolerances. The laboratory program can also run additional test sequences with ageing cycles and specific tests such as slipping test of barrels.

Measurement and evaluation functions

Different programs, parameters and evaluation criteria can be selected depending on the application and design of the barrel. Specific programs for production and the lab are available.

Multichannel operation

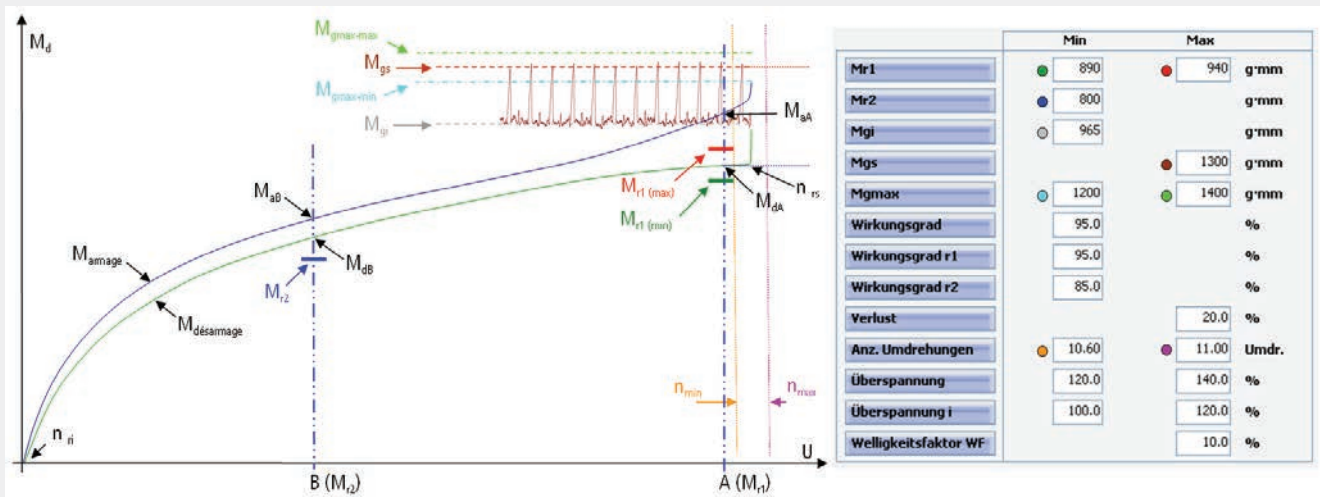
Up to 4 channels with identical or different barrels and different test programs can be run simultaneously.

Ways to improve measurement accuracy and user-friendliness

- Flex element for compensating small radial differences between drive and sensor.
- More accurate torque sensor with axial force control, protected against external influences.
- Faster, easier replacement of sensors with parameter memory.
- Illuminated work area.
- Sensor-checking software.

Measuring results and tolerances

The following 13 results with the associated tolerances are available for the reliable evaluation of the quality of a barrel.



WiCoTrace – the intelligent management of results and data



The AMB software for production is connected to the WiCoTrace database for Witschi test instruments.



WiCoTrace is a powerful database for the acquisition, storage and management of measurement results as well as for related part and test parameters. All measurement results can be accessed at any time throughout the life cycle of a product. The traceability of all results is guaranteed.

WiCoTrace provides the basis for the orderly management of products and parts, as well as of related measurement results and test parameters..



With the Universal Editor, parameters for parts or caliber, as well as test sequences, test parameters and tolerances, are centrally created and managed. This ensures that only current and authorised parts and test parameters are used.



All measurement results and test parameters can be queried with a Web browser from any networked computer.

Software for production and quality control



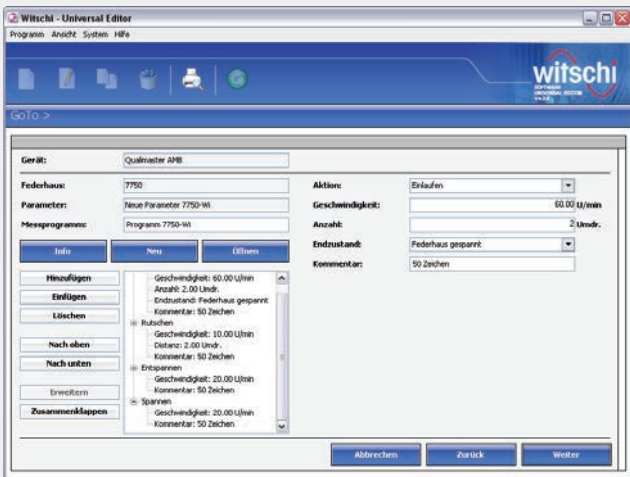
Free programmable test sequences with the “Universal Editor”, as well as up to 13 results including their tolerances, provide a professional quality assurance together with the automatic pass / fail evaluation.

Any measurement program can be created from the functions Training, Winding, Unwinding, Glitching and Pause. Thus, the revolution time and the number of revolutions can be configured freely.

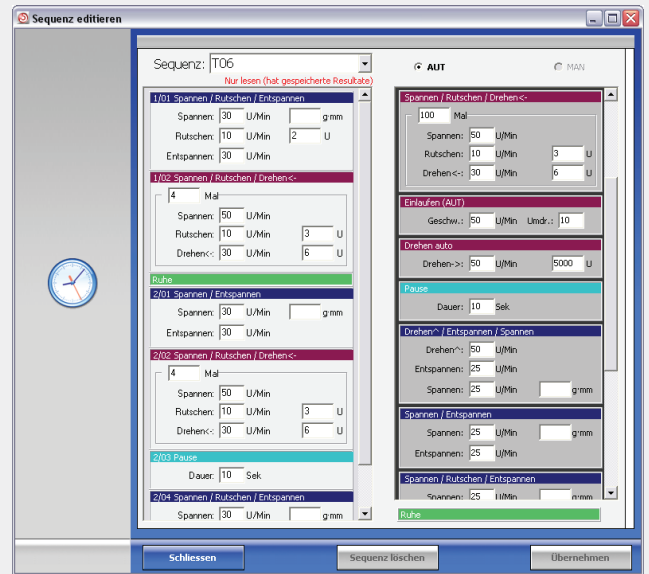
The system is very flexible and fast to program due to the grouping of the barrel, lot, measuring program and tolerance data.

The evaluation and management of numerical results and torque curves by WiCoTrace complement the numerous measurement possibilities and high quality results. This unique combination can always be accessed by all stations connected to the network.

Test parameters and results can be stored on a central server. It is possible to link measurement results from different measurements (torque, rate, amplitude, water-resistance...) to a watch.



Software for laboratory measurements



Tests based on ageing cycles and measuring steps can be carried out with the laboratory software. Test sequences can be created by simple “drag and drop”.

Numerous possibilities for analysis, documentation and data export permit extensive automation of lab tests.

Measurements (graphics) and results can be exported or copied directly into reports through the clipboard. The extensive, traceable documentation of the measurements and ageing cycles allows professional studies to be carried out without much effort.

Technical Data

Torque sensors

Measurement range: 2, 5, 10, 20, 50, 100 mNm

Accuracy: < 1% FS

Particularity: Built-in path/force measurement for checking the barrel's axial load.

Auto-ID: Parameter memory for sensor parameters and calibration data.

Electronics

Electronics integrated in the mechanics for the acquisition of torque and force as well as for motor control for driving the barrel and the vertical drive.

Measurement resolution of A/D converter: +/- 12 bits FS.

Interface to PC: USB 2.0

Control panel: To control the instrument and to display its status and the test status

Supply: +5 V / 4 A; 12 V / -0.5 A; +12 V / 2A

Rotary Drive

Drive type: NC-driven DC motor with planetary gearbox

Range of revolution time: from 0.1 to 60 r.p.m.

Angular resolution: 1°

Vertical Unit

Drive type: NC-driven DC motor with planetary gearbox and threaded spindle.

Positioning accuracy: < 1µm

Mechanics

X/Y alignment: Adjustment for aligning the drive relatively to the sensor.

Radial offset compensation: Flex element for automatic compensation of the radial offset.

Sensor fastening: Sensor plate for simple, rapid sensor exchange.

Software

Software for production and quality control (compatible with WiCoTrace).

Software for laboratory measurements.

Particulars

Housing: Aluminium/steel, silver-grey metalised and colourless anodised.

Dimensions: 175 x 305 x 220 mm (L x H x D)

Weight: 6.2 kg

Power supply: from 100 V~ to 240 V~, 50/60Hz

Piece holder and key

To test the most varied barrels, it is enough to replace the high-precision hard metal piece holder and the associated key.



To eliminate axial forces on the barrel or the barrel lid, the spring shaft can be supported from below by means of a height-adjustable ruby.

Accessories

Design and manufacturing of part-specific piece holders and keys for all barrel types.

PC Dell PC with 19" TFT monitor, keyboard, mouse Windows 7	Item 64.1212
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