

# ChronoMaster®



## **ChronoMaster, the smart, compact microphone!**

The acoustic microphone for the measurement of mechanical watches is user-friendly and versatile, thanks to its ergonomic and compact design. This precision measuring device can recognise 12 test positions and facilitates the comprehensive measurement and analysis of rate deviation, beat error and amplitude.

## **Plug'n'Play!**

Thanks to its built-in measurement electronics, this device enables you to connect to your Windows PC or tablet via a USB port – just plug in and go! Operation is ergonomic and efficient thanks to the four push-buttons.

## **WiCoTRACE and Chronoscope Service**

With the efficient Chronoscope Service software for Windows PC and tablet, entire test position sequences can be analysed in different display modes. In addition, the ChronoMaster is fully integrated into the WiCoTRACE central test parameter and result management system.

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## ChronoMaster

- Compact, precision microphone with integrated measurement electronics for testing mechanical watches
- USB port type A with Plug'n'Play for quick and easy connection to a PC or tablet
- Automatic detection of the 6 main test positions, 4 intermediate vertical positions and 2 special positions
- Precise division of test positions into 45° increments
- Efficient software with guided Sequence mode, adjustable for 1 up to 10 test positions
- Secure mounting, even for large watches
- Convenient and efficient operation thanks to built-in control keys
- Ergonomic control thanks to stable hand rest in home position

|                             | ChronoMaster              | ChronoMaster PRO |
|-----------------------------|---------------------------|------------------|
| Continuous diagram plotting | •                         | •                |
| VARIO display mode          | •                         | •                |
| TRACE display mode          |                           | •                |
| SEQUENCE display mode       |                           | •                |
| POLAR display mode          |                           | •                |
| SCOPE display mode          |                           | •                |
| WiCoTRACE                   | continuous measuring only | •                |

## General

|                            |  |
|----------------------------|--|
| Operation                  | 4 push-buttons                                       |
| Display                    | -  |
| Software                   | WiCoTRACE<br>Chronoscope Service (max. 2 channels)   |
| Compatible display devices | Windows PC<br>Windows tablet<br>Chronoscope X1 (G3)* |
| Interfaces                 | USB type A   |
| Dimensions                 | 130 x 110 x 110 mm (W x H x D)                       |
| Weight                     | 610 g  |

\* only valid with ChronoMaster PRO

## Measurement

|                       |                                     |
|-----------------------|-------------------------------------|
| Measurement principle | Acoustic measurement of beat noises |
| Rate                  | -1'000 ... +1'000 ± 0.1 s/d         |
| Amplitude             | 70 ... 360° ± 1.0°                  |
| Beat error            | 0 ... 9.9 ms ± 0.1 ms               |

## Measuring conditions

|                    |   |
|--------------------|---|
| Stabilisation time | Manual  |
| Amplification      | Automatic or manual                                     |
| Measurement time   | Manual, 2 s to 300 h                                    |
| Test positions     | 12 **   |
| Frequency          | Automatic or manual,<br>3,600 to 72,000 A/h             |
| Lift angle         | Manual, 10 to 90°                                       |
| Time base          | TCXO (±0.13 s/d)  |
| Ambient conditions | Temperature: 10 - 50 °C<br>Relative humidity: max. 80 % |

\*\* depending on the used software or display device