

Chronoscope M20



Test system for the simultaneous measurement of 20 mechanical watches

The Chronoscope M20 is the top measurement system for every watch manufacturing facility. The simple loading system with automatic loading/unloading of watch pallets and fast switching between up to 6 test positions provides the user with a marked productivity increase. Signal acquisition takes place either directly through the watch glass or on the protective container of the movement.

The identification of the movement and the storage of measurement results into a central database ensure the tractability of all test steps.

The Chronoscope M20 can be networked at any time into a WiCoTrace group of instruments.

Witschi Electronic Ltd

Bahnhofstrasse 26 – CH-3294 Büren a.A. – Tel. +41 (0)32 352 05 00
 Fax +41 (0)32 351 32 92 – welcome@witschi.com – www.witschi.com

Technical Data

Measurement possibilities

- **Standard measurement** Rate accuracy, amplitude and beat error of mechanical watches.
- **Graphic analysis** Records up to 50 hours.
- **Interval measurement** Execution of the measurements in a definable interval during a certain period.

Beat number

Adjustable for all beat numbers from 3600 to 36000 A/h.

Lift angle

Selectable from 10° to 90°.

Stabilisation time

Selectable from 00:00 to 60:00 minutes.

Measurement

Selectable from 00:00:02 to 50:00:00 hours.

Test modes

- **Stnd** Standard mode for watches with Swiss escapement.
- **Spe1** Mode for watches with coaxial escapement.
- **Spe2** Mode for watches with AP escapement.
- **Spe4** Mode with specific amplitude filter for watches with Swiss escapement.

Signal gain

Selectable from 1 to 4.

Measurement capability

Rate measurement (high resolution):

Measurement range ± 999.9 s/d (± 999.99 s/d),
Resolution 0.1 s/d (0.01 s/d), accuracy ± 0.1 s/d.

Beat error:

Measurement range 9.9 ms, resolution 0.1 ms,
Accuracy ± 0.1 ms.

Amplitude (high resolution):

Measurement range 80° to 360°, resolution 1° (0.1°),
Accuracy ± 0.4 °.

Functions

20 acoustical signal sensors for watches without wristlet or containers of movements. Automatic loading/unloading of the watch pallets.

For the measurement up to 6 measuring positions are possible.

Details

The built-in electronic unit contains 20 measuring channels.

Time base: Pre-aged and thermo-compensated high frequency quartz, OCXO.

Stability: ± 0.004 s/d between 10° and 50° C.

Aging for the first year: max. ± 0.03 s/d.

RS232 interface for PC attachment.

Basic plate and casing: aluminium, silver.

Protection panel: smoked Plexiglas.

Dimensions: 630x715x770 mm (w x d x h).

Weight: 212 kg.

Connection to the mains:

- 230V~ (210 - 250 V~) 50/60 Hz (45 - 65 Hz). Mains with 16 A safety switch and connection to the protective ground.
- 120 V~ version on demand.

Requirements of the PC

- Processor: min. P4, 2 GHz.
- RAM: min. 1 GB.
- Requested free space on hard disc: min. 40 GB.
- CD or DVD drive (for the database backup).
- RS232-interface with use of Chronoscope S1/M1.
- USB- interface with use of Micromat C.
- Network interface is necessary for networking (WiCoTrace).
- Operating system: Windows XP, SP2 or Windows 7.
- Monitor with 1280x1024 Pixel. We recommend a 19" LCD monitor.

Accessories

Unipac pallettes for watches and container	on demand
Special table for the complete system	on demand
PC Dell with 19 " TFT monitor, keyboard, mouse and Windows XP Professional.	64.1210
Printer HP LaserJet.	JB01-HP-LJET-ML
Label printer CT-S851 with USB interface.	JB01-CT-S851BK
Thermo paper for CT-851.	JB01-MM58-DPU20-N
Bare code reader Gryphon USB	JB01-901651082
Image System: 80GB hard disc USB 2.0 with Software Norton Ghost.	64PK1

Network capability with WiCoTrace



2009