# ??????? ????????, Controls



??????? ????????, Ultrasonic Time of Flight Meter. The Ultrasonic Time of Flight Meter, known also as the Ultrasonic Pulse Velocity Tester, is used for Quality Control and inspection of concrete. It measures the transit time of ultrasonic pulses through concrete for inspection of new and old structures, slabs, columns, walls, fire damaged areas, precast and prestressed beams, cylinders and other concrete forms. Combined with an oscilloscope can identify honey combs, voids, cracks and other non-homogeneous conditions in concrete

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**Highlights**

Hand portable light instrument, battery operated, microprocessor incorporated, supplied complete with two 54 kHz transducers (transmitter and receiver), calibration rod, 250 g of coupling agent, battery charger with interchangeable plugs, mini-USB cable for PC connection and power supply, dedicated data storage software (CSReader), instruction manual and rigid carrying case.

***Note***
*Another advanced model of UPV tester is also available. See Ultrasonic pulse analyser PULSONIC model 58-E4900 with incorporated oscilloscope, suitable for determining the Dynamic Modulus of elasticity, the measurement of the Attenuation of the Transmitted Energy, the Spectrum analysis by FFT method, the concrete strength evaluation combining the pulse velocity with the rebound number of the concrete hammer (SonReb method), etc*

**Features**

- For the non-destructive evaluation of concrete homogeneity, determination of Dynamic Elastic Modulus, Dynamic Poisson coefficient, concrete resistivity (combined with other determinations).
- Compliant to EN 12504-4, ASTM C597-09.
- Ergonomic, compact and portable.
- Battery operated.
- Large LCD monochromatic display (128 x 64 pixel).
- Internal memory for storing up to 250 measurements.
- Data export format: .csv, .txt.
- Digital calibration using PVC probe (included).

- Multi-voltage and multi-frequency battery charger with interchangeable plugs.
- Polypropylene rigid case for transport of the instrument and accessories.

**Specifications**

- Microprocessor incorporated.
- Battery operated up to 6h by internal rechargeable battery pack (Li-ion, 3.7 V, 1800 mAh) and External charger.
- Usable also during recharging time (about 2h if not in use).
- USB output (type mini -B) to connect power charger and PC.
- Connectable to oscilloscope.
- Analysis of compression waves P and Time of fly and transmission velocity waves.
- Pulse rate from 1 to 8 per second.
- Resolution 0.1 microseconds and accuracy of 2%.
- N.2 55kHz Transducers (diam 30mm, h 50mm).
- 3m cable, BNC connector for connecting transducers.
- Frequency range 20 to 150 kHz.
- Environmental working conditions: 0 – 40°C, 0-90% RH.
- Weight of the tester 0.3 kg, complete set 3 kg.

**Included in the rigid case**

- Ultrasonic pulse velocity tester.
- Power charger to recharge its internal battery.
- USB cable for PC connection.
- USB key with documents and CSreader software for data management
- BNC cables to connect probes to the instrument.
- n° 2 ultrasonic probes (transducers).
- PVC sample (120mmx40mm) with known crossing speed for instrument calibration.
- 250gr gel for fixing probes to structural element.
- CSReader data storage software.

**Models:** 58-E4810

Ultrasonic device for concrete. Battery operated at 3.7V and 1800mAh. Conforming to UNI EN 12504-4 and ASTM C597 standards

**Accessories**

**Testing Heads**

58-E0046/30

24 kHz testing head (minimum requirement: 2 units).

58-E0046/5

54 kHz testing head with exponential profile (minimum requirement: 2 units).

58-E0046/33

150 kHz testing head (minimum requirement: 2 units).

**Other**

58-E0046/2

Spare cable 2 m long

58-E0046/3

Coupling agent (contact paste), 250 cc bottle.

**Standards: ASTM C597 EN 12504-4**