CT-UVS-150 · BENCHTOP P / S1 / S2 ULTRASONIC VELOCITY SYSTEM

Key differences

What the CT-UVS-150 adds to a standard ultrasonic pulse-transmission set-up, with the figure behind each point.

50 – 1000 N	±2 %	0.3 ns	< ±1 %
measured contact force, logged per waveform	force set-point repeatability	transit-time sampling step	typical velocity uncertainty, L ≥ 25 mm

01 Contact force is measured, not assumed

The platens are closed by a pneumatic actuator and the actual force is read by a load cell directly under the lower platen. The force value is stored with every waveform, so coupling conditions are part of the test record and a test can be repeated on another day at the same force. Specimens are not held by hand, heat-shrink sleeves or tape.

50 – 1000 N · set point repeatable within ±2 %

02 Complete benchtop system in one price

Load frame, platen sets for 1 in and 1.5 in plugs, pulser and receiver, channel switching, digitizer, laptop, software, couplants and reference specimen are all included. No separate press, cell or specimen holder is needed to start testing.

Ready to test on delivery

03 S1 and S2 aligned to the rock fabric

Both platens rotate together about the specimen axis on an angular scale and lock in position. S1 and S2 can be set parallel and normal to bedding, and the measurement repeated at several angles, without a separate anisotropy instrument.

Shear-wave splitting vs. polarization angle

04 Fine time resolution on short and fast specimens

The digitizer samples at 3.2 GSa/s with 14-bit resolution, and up to 16 bits in high-resolution mode. With pulse stacking, the typical velocity uncertainty stays better than ±1 % on specimens from 25 mm long, including fast crystalline rock.

0.3 ns sampling step · better than ±1 %

05 Open data

Every raw waveform is saved with its metadata: length, density, contact force, polarization angle and operator. Stored tests can be re-picked later. Results and waveforms export to CSV or TXT. The software runs offline on a perpetual licence, with no cloud account or annual fees.

CSV / TXT · perpetual offline licence

06 Traceable calibration

System delay is measured face-to-face for each channel. An aluminium reference specimen with stated velocities is supplied, and the load cell comes with a calibration certificate.

Daily check in minutes

Values are typical for the standard configuration. Guaranteed performance, included hardware and acceptance criteria are stated in the project-specific technical proposal.