

Focus-Information

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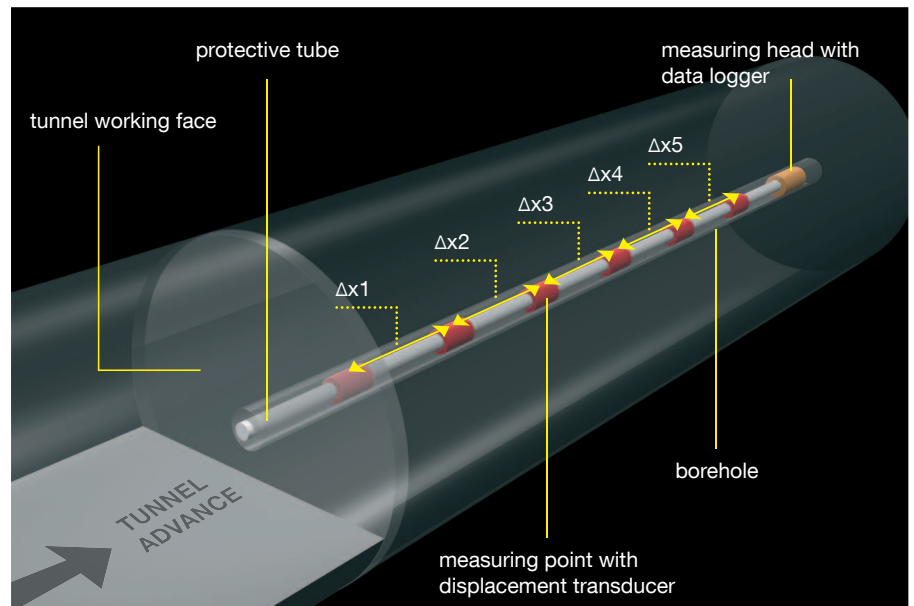
Geotechnics >> Line-wise displacement measurement

M-RHX – Modular Reverse-Head Extensometer

M-RHX continuous displacement measurement in the stepwise excavation of tunnels, slope cuttings and deep excavations

Applications

- Monitoring the axial displacements at several measuring points ahead of the tunnel's working face to check and optimize the excavation supports
- Checking the displacements during cuts in slopes and to permanently monitor the stability
- Heave and settlement measurements in the case of deep excavations



Services of Solexperts

- Advice in implementing the measuring concepts
- Configuration, sale and installation of the Modular Reverse-Head Extensometer
- Sale or leasing of the read-out equipment
- Read-out of the measured data and preparation of report
- Display of the measured results in the WebDAVIS data visualization system



Features of the measuring system

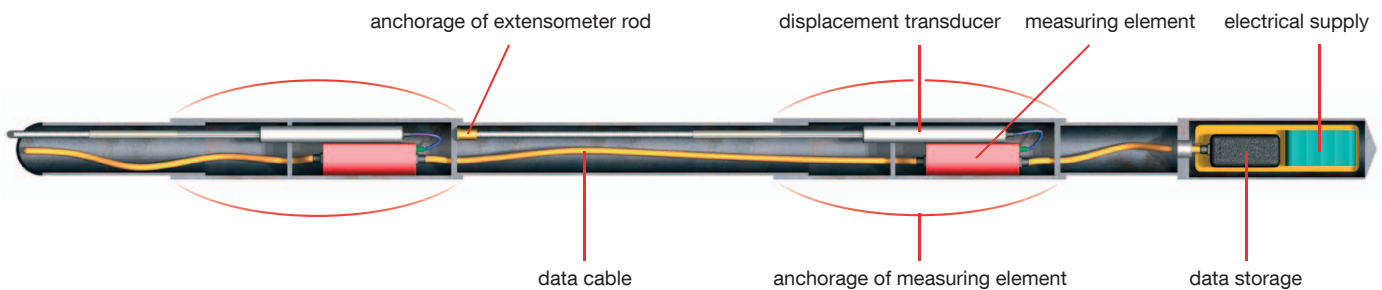
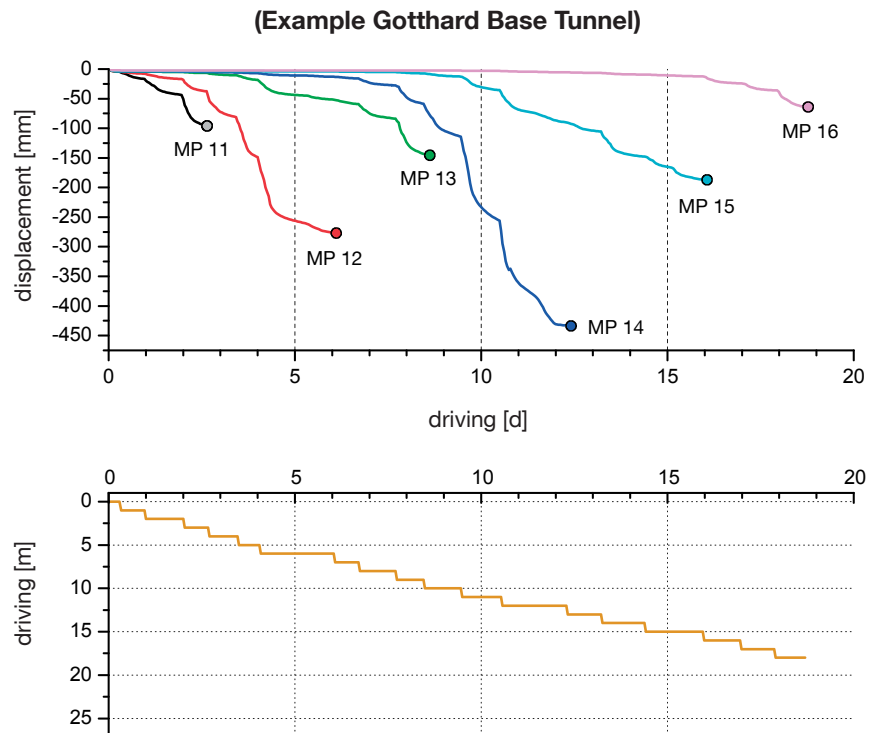
The system consists of a series of connected simple extensometers. In the case of a small borehole diameter, this set-up facilitates the arrangement of a large number of measuring points. The continuous measurement is guaranteed, despite the tunnel advance and a stepwise reduction of the number of measuring points. The manual read-out of the stored measured values can be carried out in a few minutes using a portable PC or PDA. The measured values of the individual displacement transducers are stored at selectable time intervals in the «Reverse Head».

Evaluation

The type of display in the evaluation can be selected individually for the actual problem under consideration. In general, the results of the displacements are presented as integrated or differential plots. The reference value for the displacement, the time, the progress of tunnel advance or the distance of the measuring point from the working face can be selected. The measuring head is assumed fixed at the start of measurements. In the case of an overlapping installation of several systems the measurements can always be referenced to a fixed point.

Here the reference point of the tunnel advance is represented in days after the installation of the M-RHX. The result is displayed as the integrated plot of the displacement from the measuring head to the current measuring point. The influence of the distance from the working face to the measuring point can be clearly seen.

Displacement vs. Time / Progress of tunnel advance



Specifications Modular Reverse-Head Extensometer

Minimum borehole diameter:	56 mm
Number of measuring points:	up to 16 points
Spacing between measuring points:	selectable
Installation length:	up to 80 m
Deformation range per point:	100 / 250mm
Rate of read-out plot:	1 min to 24 h (selectable)
Period of independent electrical supply:	approx. 3 months
Measuring accuracy:	0.2% FS
Resolution:	0.01 mm
Optional:	temperature / pressure transducers

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