The setting devices type F3M or F3E allow displacement measurements at fissures and cracks in three mutually orthogonal directions. The displacements can be read either off a dial gauge or off three permanently installed electric displacement transducers. The first device is measured by hand at fixed intervals, the second allows a continuous remote measurement with an automatic measured-value logger.

Measurement accuracies of around ± 1/20 mm are easily possible with the mechanical models, improving to ± 1/100 mm with electrical measurements. Parallel to this we recommend a temperature measurement at the flanks of the fissure, as the daily and yearly temperature course can cause strains at the structure which the setting device registers together with the foundation-related displacements. Not before a reliable interpretation of the displacements, especially very small ones, is possible.

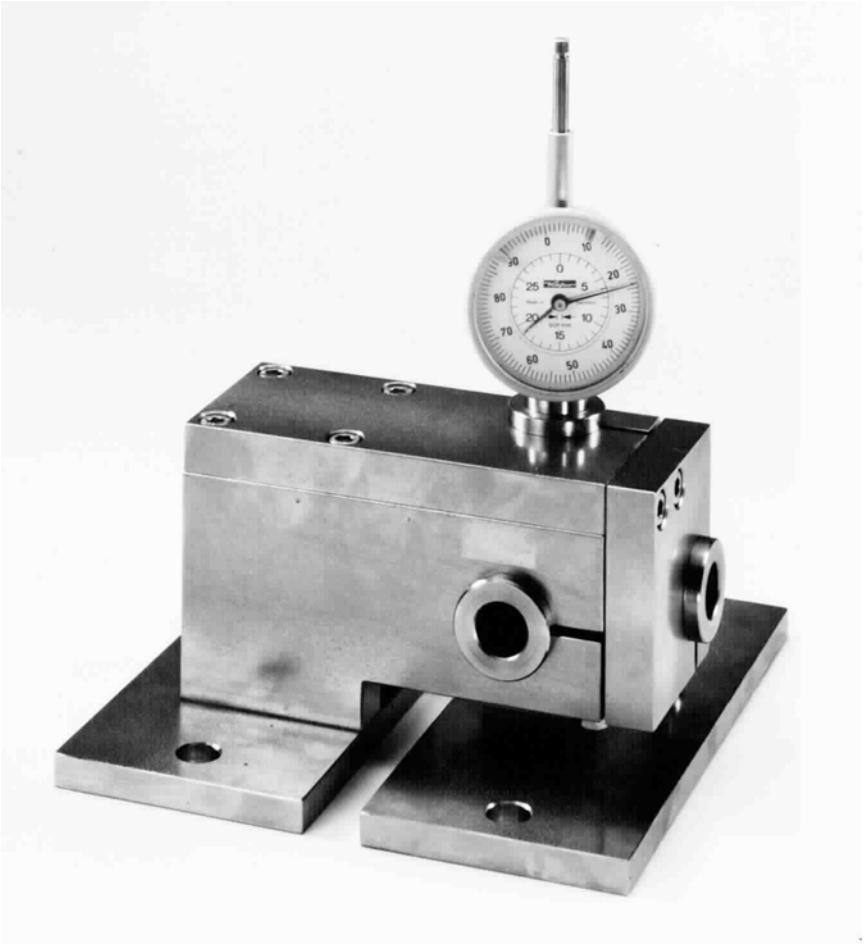

Fig. 1 Setting device type F3M with mechanical reading

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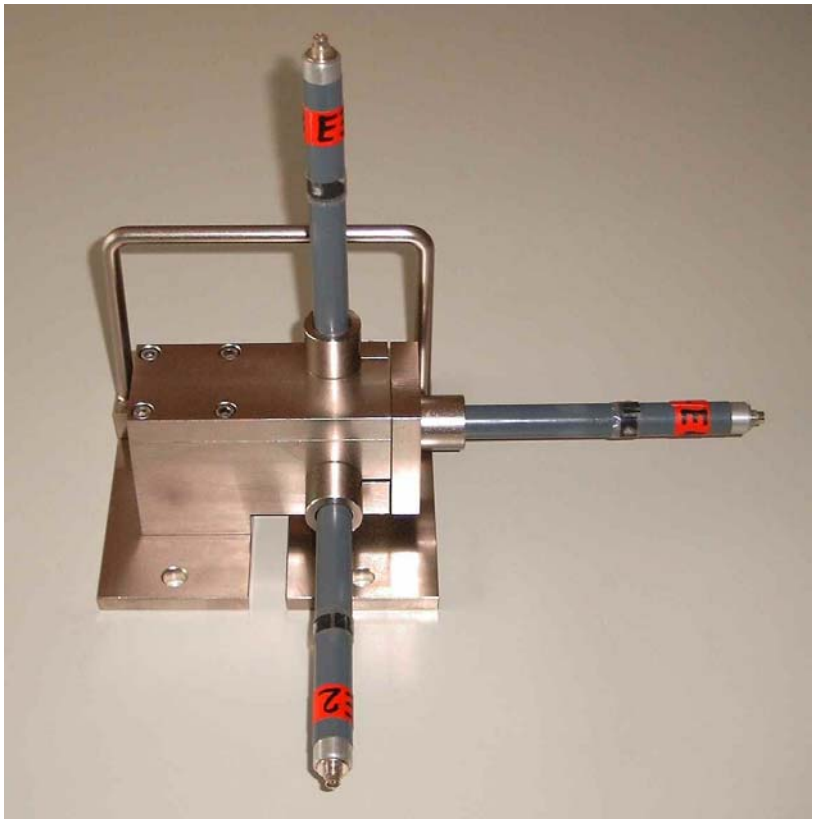

Fig. 2 Setting device type F3E with electrical reading

To install the setting device four 12 mm diameter dowel holes are drilled to a depth of 75 mm with a drilling pattern. After having pressed in the dowels (S12) the instrument is positioned at the measuring point in arrested condition; irregularities are to be compensated by a cement layer or by washers. Then the instrument is fixed with four 10 mm diameter screws. When the cement layer has hardened the arresting mechanism is removed and the instrument is ready for measuring.

For the mechanical measurement device dial gauges with a measuring range of 10 or 30 mm can be selected, the measuring range of the electric displacement transducers is 25 mm.

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