

INVERTED PENDULUM SL

Application

The inclination as well as the horizontal displacement of above and below ground structures, as well as of manufacturing plants, is of decisive importance for the evaluation of their behaviour and stability. A pendulum installation can act as reference axis, from which the displacements observed at different levels can give the deflection line.

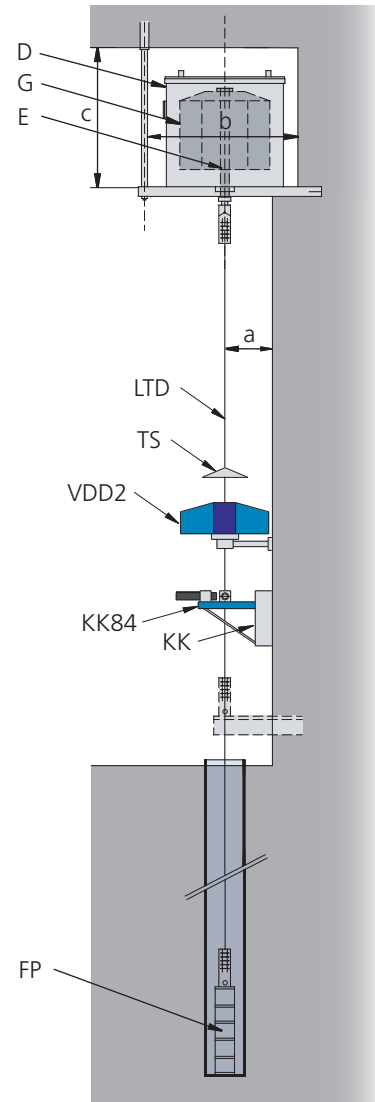
A pendulum installation can be manufactured either as a direct pendulum or an inverted pendulum, for which the wire is fixed at its upper or lower end respectively. Depending on whether this fixture is on the structure itself or in the foundation rock, either the inclination of the structure alone, or also its displacement relative to an external reference point can be determined.

A combination of the two types of pendulums gives the maximum information. For a dam for instance, a direct pendulum anchored on the crest yield the inclination and deflection line relative to the crest, whilst an inverted pendulum fixed deep in the foundation rock gives the movement relative to the surrounding rock.

Description

An inverted pendulum system consists of the pendulum reference point FP, the pendulum wire LTD, the float G with float rod E in the float vessel D.

For manual measuring a Coordiscope KK84 (N or D) is used. The contactless remote measuring instrument Teletot VDD2xx can be installed for permanent surveillance.



Technical Data

Type	SL30-75	SL100-100	SL200-150
Uplift	300 N	1000 N	2000 N
Pendulum wire	ø 1 mm	ø 2 mm	ø 2.5 mm
Max. wire length (C)	~ 60 m	> 60 m	> 150 m
Measuring range (A)	75 mm	100 mm	150 mm
Measurement with	B	B	B

Legend:

A = Without moving the damping vessel

B = Coordiscope, Teletot all types

C = The maximum possible pendulum wire length is mainly influenced by two factors:

1. Measuring method with or without touching the wire
2. Air current in the pendulum shaft or generally in the building