# DIRECT PENDULUM GL

## Application

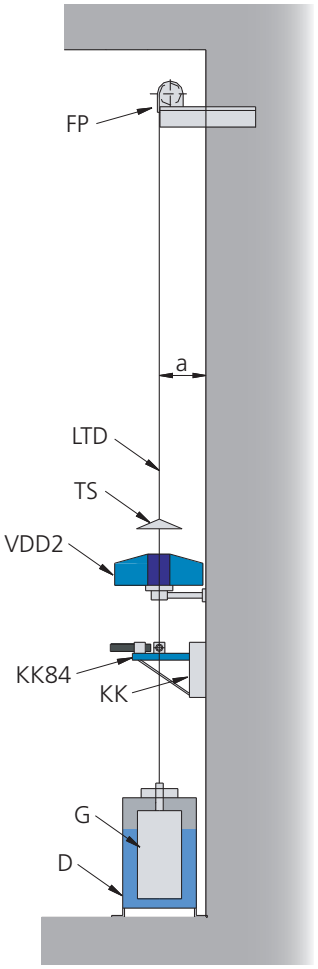
The inclination and the horizontal displacement of underground and building constructions, as well as of production plants, is of decisive importance for the evaluation of their behaviour and stability. A pendulum installation can act as reference axis, from which the displacements observed at different 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.

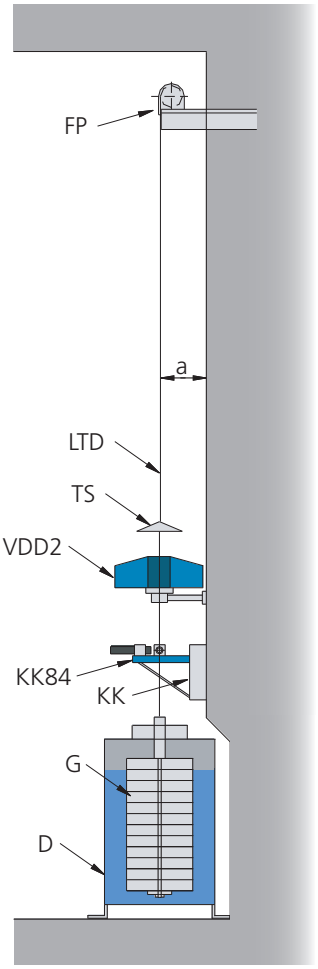
A combination of the two pendulum types gives the maximum information. For a dam for instance, a direct pendulum anchored on the crest yield the inclination and deflection line relative to the crest, whilst an inverted pendulum fixed deep in the foundation rock gives the movement relative to the surrounding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

## Description

A direct pendulum system consists of the pendulum reference point FP, the pendulum wire LTD, the pendulum weight G and the damping vessel D. For manual measuring a Coordiscope KK84 (N or D) is used. The contactless remote measuring instrument Telelot VDD2xx can be installed for permanent surveillance.




*GL 20 / GL 50*




*GL 100 / GL 200*

## Technical Data

| Type | GL 20-150 | GL 50-100 | GL 100-150 | GL 200-150 |
|---|---|---|---|---|
| Pendulum weight | 200 N | 500 N | 1000 N | 2000 N |
| Pendulum wire | ø 1 mm | ø 1 mm | ø 2 mm | ø 2.5 mm |
| Max. wire length (C) | ~ 20 m | ~ 50 m | ~ 150 m | > 150 m |
| Measuring range (A) | 150 mm | 100 mm | 150 mm | 150 mm |
| Measurement with | B | B | B | B |

Legend:

A = Without moving the damping vessel

B = Coordiscope, Telelot all types

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

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