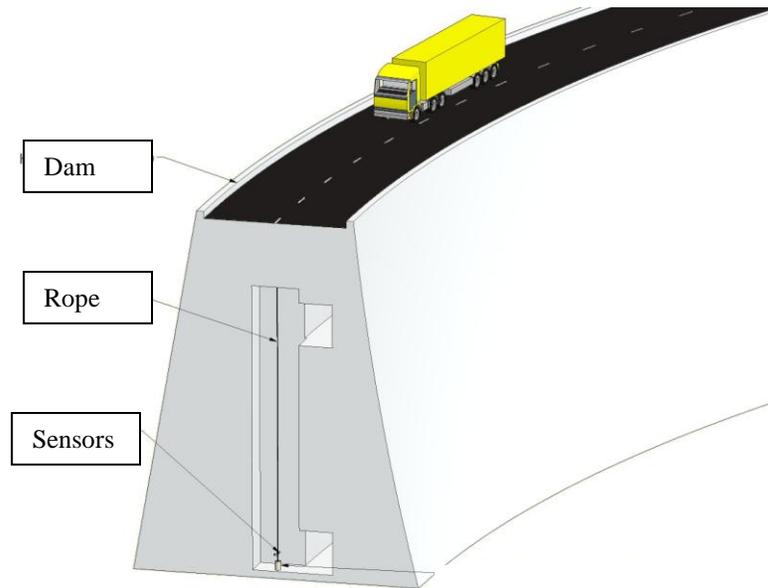


BVT DAM MOVEMENT SENSOR

Type:DMS

Description

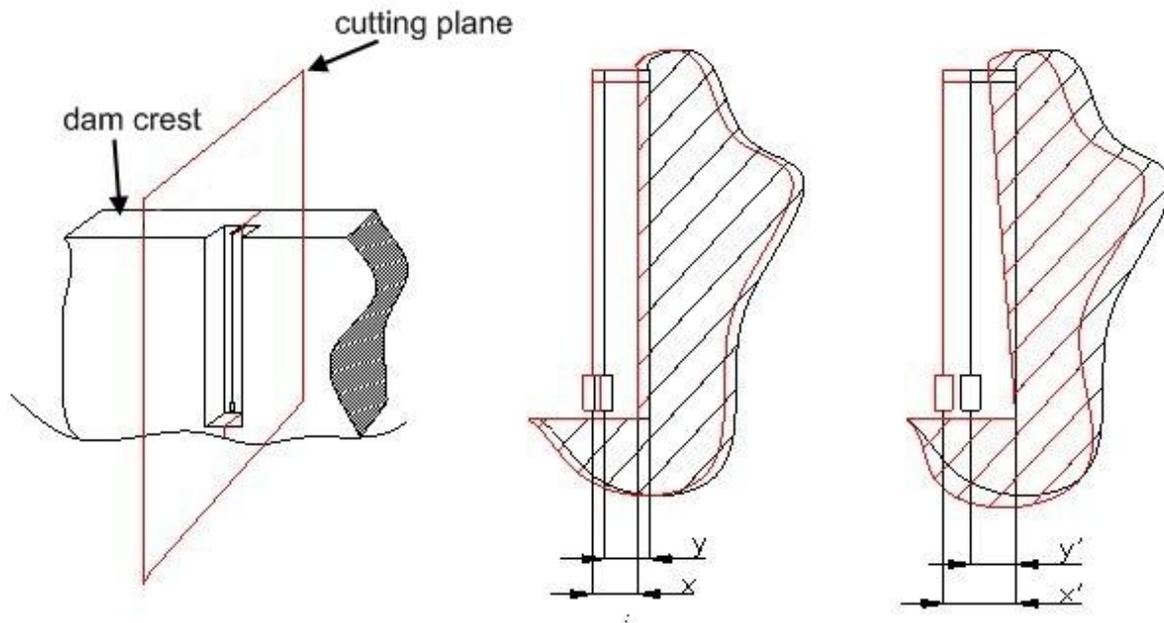
The BVT Dam Movement Sensor is a remote reading instrument incorporating a pendulum / plumb line, which measures the pendulum position on a pre-determined time basis and reports this information back to the control system.



Technical Parameters

Methodology

- A pendulum / plumb line is placed in a shaft within the dam structure;
- The measuring equipment is tightly fitted into the concrete of the dam at the bottom of the shaft;
- When the water level within the dam increases the dam will move;
- Deviation of the pendulum / plumb line identifies angular dam til
- In the middle illustration the position of the pendulum / plumb line string will remain unchanged if the dam wall is only being moved horizontally;
- In the right illustration when the slope of the dam wall is changed, the position of the pendulum / plumb line string, with regard to the dam wall, will change.



Sensitivity of angular deflexion “Vir”:-

- | | |
|-----------------------------------|------------------|
| • Length of pendulum / plumb line | 60 metres |
| • Measured deviation | 0.01 mm |
| • Detectable angle of change | 0.034 arcseconds |

Applications for Use

The system principle can be used in many others applications, such as:-

- The tilt of buildings based on unstable ground;
- Towers, geological massifs etc.;
- Determining the stability of tunnels - this uses the same principle but the system incorporates different technical arrangements.

In all situations very small changes can be monitored, which will indicate potential risk exposure for buildings, landslips, earthquake etc.

Working Examples

The BVT Dam Movement Sensor is incorporated into Vir and Vranov Dams in the Czech Republic.

Examples of graph plots and data collected, at 30 minute intervals, from the above dams accompany this product information.

