



MODEL SME-2130

NORMAL PLUMB LINE

FEATURES

- * Robust design
- * Accurate measurement
- * Simple installation

APPLICATIONS

Normal plumb line is useful for monitoring horizontal displacement of concrete structure.

The system is used to monitor:

- * Relative movement of dam top & Base.
- * Movement in dam abutments
- * Movement in shafts
- * Movement in high rise buildings.



DESCRIPTION

In dams the displacement is measured in the inspection gallery. System requires a near vertical duct which is installed during construction of Dam. The plumb line will be installed after full completion of construction or in original ground. It requires a vertical borehole of $\Phi 300\text{mm}$ throughout the height. System basically comprises of a plumb hanged from the top of the construction with stainless steel wire. A support frame with a top plate and a hole at the centre mounted with two travelling microscopes at right angle to each other for measurement of relative movement of plumb in X and Y direction are placed at the inspection gallery. The plumb is heavy weight of 10 to 20 kg, hanged through a wire and is submerged in a thick oil tank under the frame to dampen the vibration effect.

Two reference plumbs are hanged behind plumb wire in each direction. Initially the position of reference plumb and alignment is noted by aligning cross-wire of microscope and then the actual plumb is aligned through microscope. The difference of the two provides the zero position of plumb. Here after any change measured in X & Y direction gives the actual movement of dam or structure. An accurate measurement as close as 0.01mm is possible to measure with vernier scale provided with travelling microscope.

SPECIFICATION:

Measurement range	: ± 75 mm
Resolution	: 0.01mm
Accuracy	: 0.1mm
Plumb wire	: Generally dia 1.0 mm SS wire
Focus range	: Between 350 to 900 mm
Plumb weight	: 10 kg standard or as per requirement
Damping oil	: S.A.E. 40
Measurement	: By travelling microscope with vernier scale for fine measurement

Ordering Information

- * Wire diameter
- * Wire length
- * Plumb weight
- * Installation height

Due to continuous development program the specification and dimensions are subject to change without notice. Our engineers do undertake the work for development as per the customer's requirement.

Sensors & Measurements Enterprises

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