
Pendulum System HPS-3500 & IPS-3000



Designed for accurate and long-term measurement of horizontal movements associated with the rotation or tilting of a structure



Pendulum System HPS-3500 & IPS-3000



Overview



Geosense® HPS-3500 (Hanging) and IPS-3000 (Inverted) Pendulums are used to measure the tilt or rotation by measuring the relative internal horizontal displacement of points along a true vertical line. Each has a tensioned, stainless steel wire and the effects of the earth gravitational forces to guarantee a perfectly vertical line between a fixed point and a tensioning mechanism. Typical applications include concrete dams, bridges and high rise buildings.

The HPS-3500 Hanging Pendulum has a fixed point high up in the structure and a heavy weight is used to generate the tension. The weight is submersed in a fluid to damp movements that may be caused by currents of air up through the pendulum shaft.

The IPS-3000 Inverted Pendulum has a fixed point at, or below, the base of the structure and employs a large float in a water filled tank, to generate the tension in the wire.

Measurement of the position of the vertical wire, relative to the structure allows rotation or tilt to be calculated.

Displacements relative to the wire are measured using a manual readout or, for remote reading, the TP-2000 automatic readout is used.

FEATURES

Designed for accurate and long-term measurement of horizontal movements associated with the rotation or tilting of a structure.

Typical applications include:

Dams

Bridges

High-rise buildings

FEATURES

High accuracy and repeatability

Manual or automatic readouts available

Direct and inverted options available

Simple to use

Long-term reliability

Movements can be observed at frequent intervals

Proven technology

Can read X, Y and Z movement

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Specifications

HPS-3500 (HANGING PENDULUM)

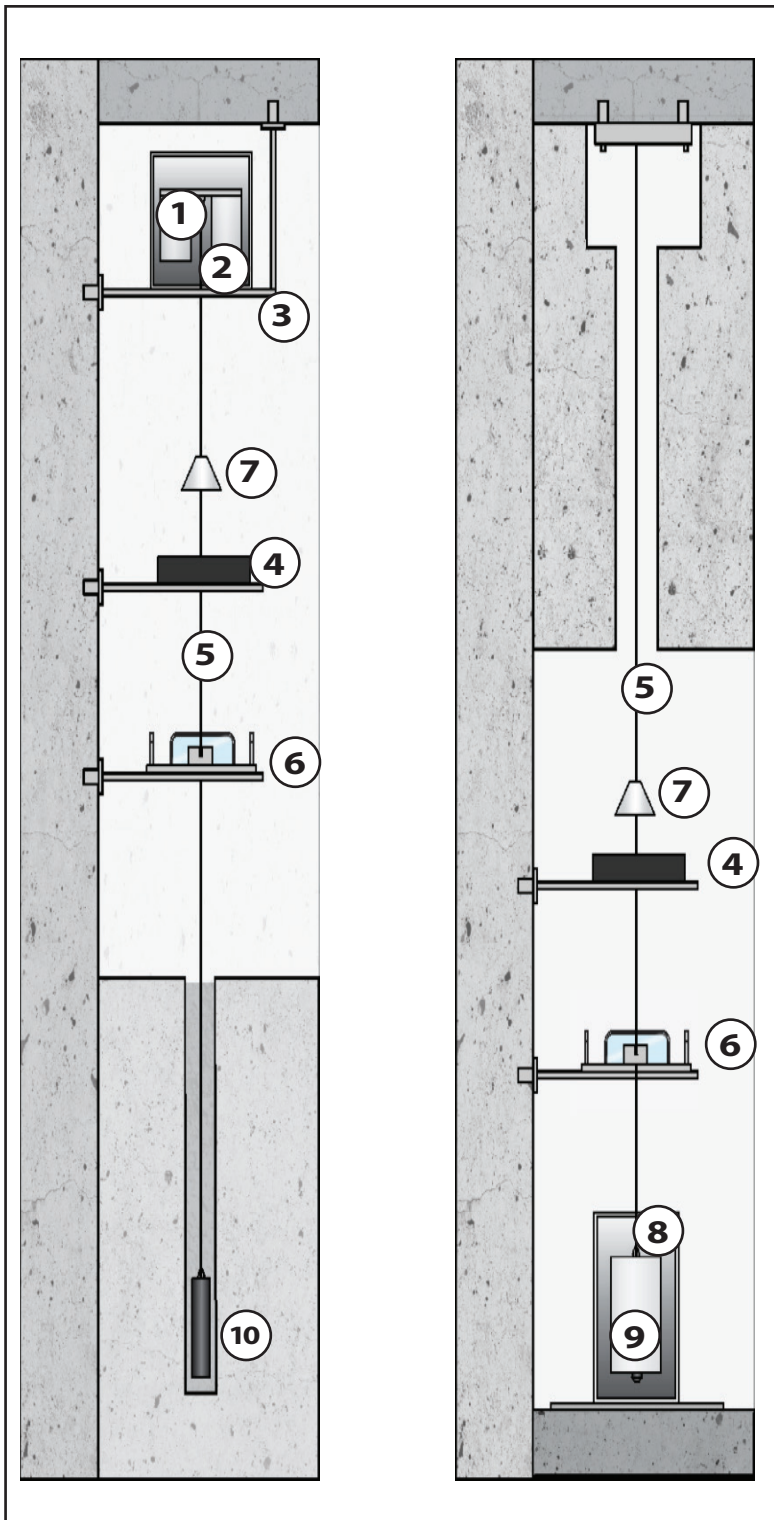
DAMPING TANK		RESERVOIR TANK + LID	
Dimension	592mm x 457mmØ	Dimensions	643mm x 780mmØ
Material	Stainless Steel	Material	Stainless Steel
Weight	15kg	FLOAT	
PENDULUM WEIGHT		Dimensions	460mm x 610mmØ
Mass	30kg	Material	Stainless Steel
Dimension	240mm x 200mmØ	ANCHOR	
Material	Mild Steel	Dimensions	600mm x 50mmØ
PENDULUM WIRE		Material	Steel BZP
Diameter	1.0, 1.6, 2.0mm	PENDULUM WIRE	
Material	Solid stainless steel	Diameter	1.0, 1.6, 2.0mm
DAMPING TANK DRIP COVER		Material	Solid Stainless Steel
Dimension	200mm		
Material	PVC		

SUPPORT FRAMES

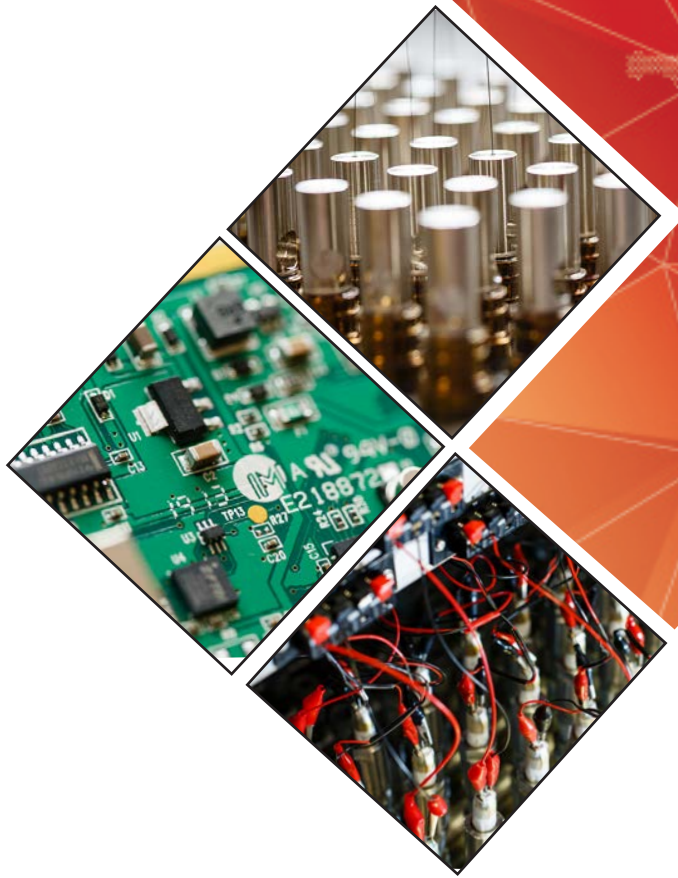
WALL MOUNTED	WIDTH(mm)	BREADTH(mm)	HEIGHT (mm)
Automatic Readout	365	770	750
Manual Readout	365	770	750
Combined (Automatic & Manual)	365	770	1500
FLOOR MOUNTED			
Automatic Readout	580	600	650
Manual Readout	580	600	650
Combined (Automatic & Manual)	580	600	1550

VWP-3000 Series

Overview



- ① FLOAT
- ② FLOAT TANK
- ③ BRACKET
- ④ AUTOMATIC READOUT
- ⑤ WIRE
- ⑥ MANUAL READOUT
- ⑦ DRIP COVER
- ⑧ OIL TANK
- ⑨ WEIGHT
- ⑩ ANCHOR



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