

CASAGRANDE PIEZOMETER TIP



DESCRIPTION:

A Model SIS 9000 Series Porous Tube & Casagrande Standpipe Piezometer are considered to be more reliable than other types and used to measure water level and artesian heads in embankments and foundation of dams and reservoir, uplift pressure in hill side highways and underground works. It is more sensitive to foundation pressure and is more resistant to plugging due to silting the system is installed in a borehole of required depth.

System consists of a low or high air entry value cylindrical ceramic or plastic filter element closed at one end with PVC/Brass/ Rubber stopper. The other end has a PVC/Brass/ Rubber bushing to facilitate its assembly with PVC pipe. The required depth of Piezometer tip is reached by adding the PVC pipes and couplings. At the top the hole a protection pipe of PVC/GI pipe is provided with a cap to protect the system from dust and outer environment in case of open loop systems where level is to be measured.

METHOD OF READING OPENSTAND PIPE PIEZOMETERS:

Various methods are available for reading open stand pipe Piezometer. An electrical Dip Meter the most commonly used consisting of a two conductor cable marked in millimeter or inch with a cylindrical stainless steel or brass weight at its lower end. The weight is divided electrically into two parts, with a plastic/nylon bushing between, and one conductor is connected to each part. The upper end of the cable is connected to a battery operated indicator light, buzzer. When the probe is lowered within the stand pipe and encounters water surface, the electrical circuit is completed through the water and the surface indicator, buzzer is actuated.



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In case of close loop system where artesian pressure is to be measured, a Burdon Tube pressure gage or a VW uplift pressure sensor for remote measurements is fixed at the top of the pipe. A micro processor based portable VW Readout Unit is used to monitor the pressure in direct engineering unit.

DESIGN: As per IS code No. 7356 part 1

ADVANTAGES:

- a) Simple to install.
- b) Useful for short and long term data monitoring.
- c) Reliable, accurate and free from creep.

EQUIPMENT

POROUS TUBE:

This is a Porous Carborandum or Alundum tube of annular cross-section, 30/50 mm O.D. X 6 mm. Wall thickness and about 200/300/600mm long standard porosity 60 μ or as per client requirement. The porosity of the porous tube should be chosen according to requirement

STOPPER AND COUPLER:

The bottom end of the porous tube is sealed with suitable PVC/Brass/ Rubber plug. When shorter length of coupled together a brass stopper having a suitable rubber seal should be used to seal the ends.

TOP ADAPTOR:

It is required to be fitted on the upper end of the porous tube assembly to connect stand to the porous tube. The nominal pipe threads are of $\frac{1}{2}$ " , $\frac{3}{4}$ " , and 1" .

STAND PIPE:

Durable rigid PVC tubing having an out side diameter of 12mm to 25.4mm and a wall thickness of 1.5mm in max, available lengths. The diameter of the tubing may be increased, if necessary, in view of the difficult experienced in passing the sounder sensor used

SPECIFICATION

Piezometer Tip Material

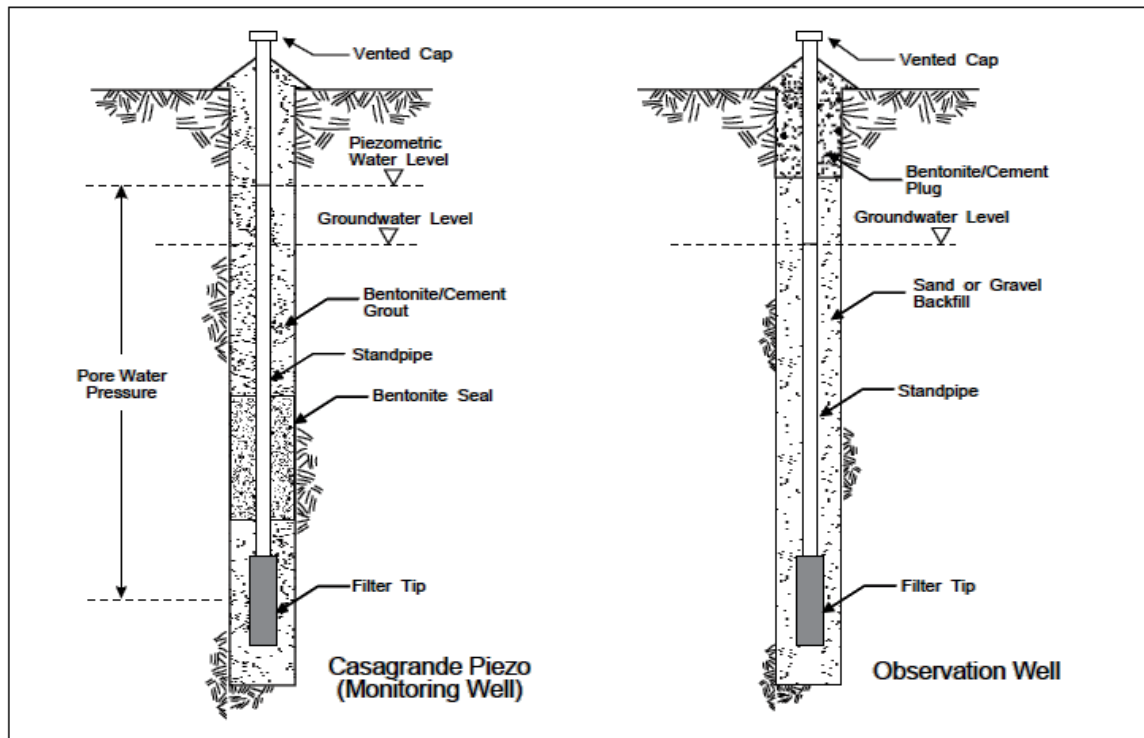
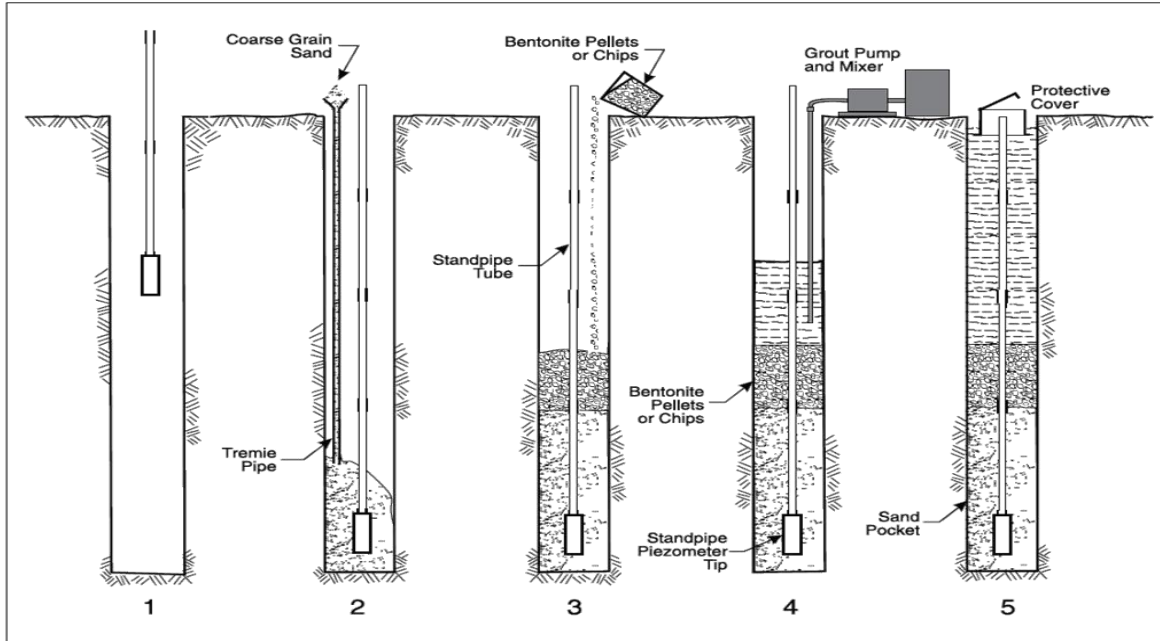
60 micron polyethylene cylinder
Standard Diameter 37 mm (including end plug)

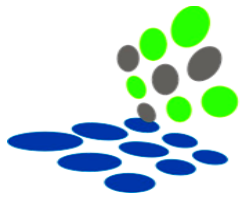
LENGTH

37mmx200mm Model SIS 9002
37mmx300mm Model SIS 9003
37mmx600mm Model SIS 9004
37mmxvarious lengths available (please specify) Model SIS 9001



Installing Standpipe piezometer





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1 Flush borehole with clean water. Attach filter tip to pipe. Add additional lengths of pipe as standpipe is lowered into borehole, sealing joints with tape or glue. Continue adding pipe until tip has reached required depth.

2 Place sand around tip sand must be wet to settle successfully.

3 Place bentonite seal. Drop pellets or chips into borehole slowly to avoid bridging. Use of flush coupled pipe also helps to prevent bridging. Add water as needed for hydration of bentonite. Allow time for bentonite to swell.

4 Fill remainder of borehole with bentonite or bentonite-cement grout.

5 Cut standpipes to length. Top off borehole with grout and install protective cover. Hand over to client after proving installation.