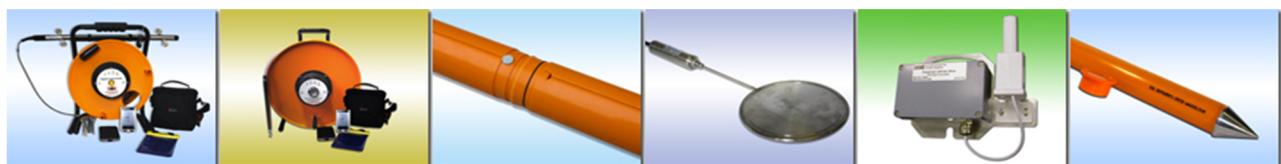
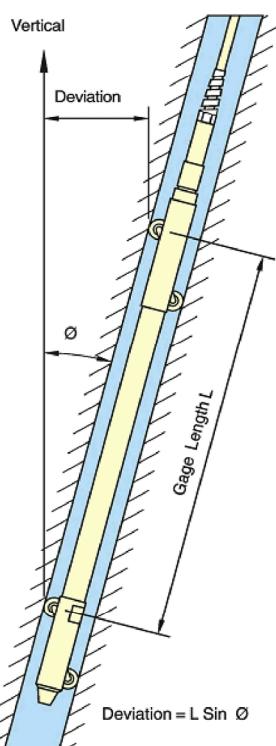
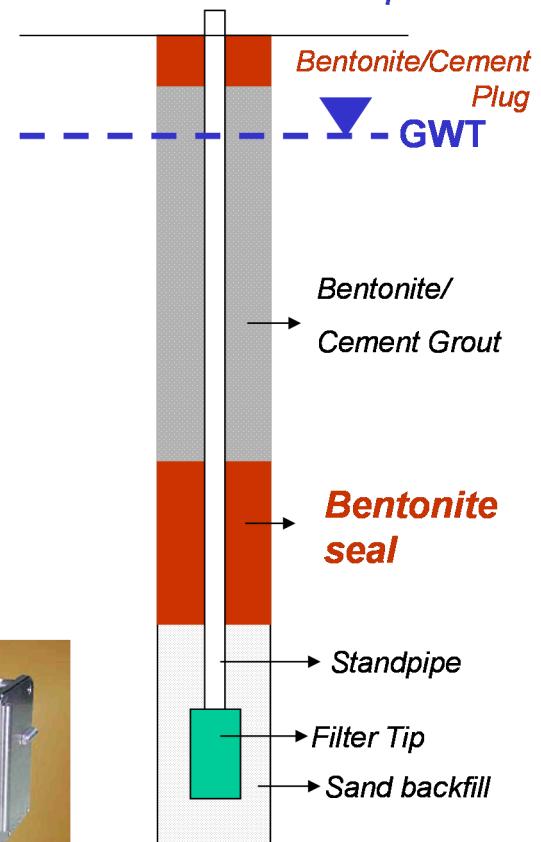


# GEOTECHNICAL INSTRUMENTATION



**PIEZOMETER** Measure Pore  
Water Pressure at certain depth



# GEOTECHNICAL INSTRUMENTATION

<b>Geotechnical Instrumentation Vol.1 .....</b>	<b>Instr-01-1</b>
1. Introduction .....	Instr-01-1
• Why use geotechnical instrumentation?	
2. Purpose of Geotechnical Instrumentation .....	Instr-01-2
• During site investigation	
• Design verification	
• Construction control	
• Quality control	
• Safety consideration	
• Legal protection	
• Performance	
3. Application Examples .....	Instr-01-6
4. Importance of Geotechnical Instrumentation .....	Instr-01-7
5. Factors Affecting the Choice of Instruments .....	Instr-01-7
• Critical parameters	
• Ground conditions	
• Instrument performance	
• Cost effectiveness	
• Instrument life span	
• Environmental conditions	
• Personnel and resources at the site	
• Data acquisition	
6. Types of Geotechnical Instrumentation .....	Instr-01-10
<b>Geotechnical Instrumentation Vol.2 Piezometers.....</b>	<b>Instr-02-1</b>
1. Piezometers .....	Instr-02-1
• Application	
• Geotechnical application	
• Environmental application	
• Hydrological application	
2. Standpipe (Casagrande) piezometers.....	Instr-02-3
3. Hydraulic piezometers .....	Instr-02-6
4. Pneumatic piezometers .....	Instr-02-10
5. Vibrating wire piezometers.....	Instr-02-12
6. Installation .....	Instr-02-15

**Geotechnical Instrumentation Vol.3 Inclinometers ..... Instr-03-1**

1. Application ..... Instr-03-2
2. The Apparatus ..... Instr-03-5
3. The Installation ..... Instr-03-9
4. Taking Readings ..... Instr-03-9
5. Processing the Readings ..... Instr-03-13
6. A Few Notes ..... Instr-03-15
7. In Place Inclinometers ..... Instr-03-17
8. Horizontal Inclinometers ..... Instr-03-19

**Geotechnical Instrumentation Vol.4 Beam Sensors & Tiltmeter..... Instr-04-1**

1. Beam Sensors ..... Instr-04-1
  - Operations
  - Purpose
  - Advantages
  - Limitations
  - Horizontal beams
  - Vertical beams
2. Tiltmeters ..... Instr-04-5
  - Readings
  - Advantages
  - Limitation
3. Beam Sensors vs Tiltmeter ..... Instr-04-8
  - Application

**Geotechnical Instrumentation Vol.5 Strain Gauges ..... Instr-05-1**

1. Apparatus ..... Instr-05-2
2. Operating Principle ..... Instr-05-4
3. Applications ..... Instr-05-5
4. Data Processing ..... Instr-05-8
5. A Few Notes ..... Instr-05-12

**Geotechnical Instrumentation Vol.6 Load Cells ..... Instr-06-1**

1. Apparatus ..... Instr-06-2
2. Applications ..... Instr-06-5
3. Notes ..... Instr-06-8