

**Specifications of Equipment for Tender Bid cum Quotation**

Name of Equipment/ Assembly	Gradient Ratio Test Apparatus
Related Standards to be accorded	ASTM D5101
Features/capabilities /Specifications	<ul style="list-style-type: none"> <li>• Equipment shall be separated in upper and lower tube and have space to house the Specimen inside with 100 mm clearance on both sides, with outlet for pressure measurement</li> <li>• Specimen diameter shall be 100 mm.</li> <li>• arraignment for soil placement.</li> <li>• Pressure sensor, i.e. piezo transducer with a maximum pressure 50 kPa, least count 1 mm water head</li> <li>• Inlet and outlet valves with non-corrosive pipe network</li> <li>• Inlet Tank with 50 liter capacity with de-airing arrangement.</li> <li>• Outlet tank with measuring device, i.e digital flow meter with accuracy of 1 ml/min with Data acquisition system.</li> <li>• Arrangement for pumping of discharge water to pump to inlet tank.</li> <li>• CO<sub>2</sub> supply, with regulator</li> <li>• Digital Thermometer with attachment to Data acquisition system.</li> <li>• Algae inhibitor / micro screen for filtration of water</li> <li>• Computer system, required software for data acquisition.</li> </ul>
Make	<ul style="list-style-type: none"> <li>• Clear mention <b>Make</b> in the bid</li> </ul>
Electrical Supply Requirement	<ul style="list-style-type: none"> <li>• Electricity supply requirements (voltage and phase) shall be clearly mentioned</li> <li>• Mention in case of Requirement of UPS (Uninterrupted Power Supply) with capacity</li> </ul>
Size and weight	<ul style="list-style-type: none"> <li>• Mention area required for positioning of equipment.</li> <li>• Mention total weight of the equipment.</li> <li>• Mention specific requirement of foundation/pedestal for resting the equipment, if any.</li> <li>• Mentioned need of vibration isolated, if needed</li> </ul>
Water and air supply requirements	<ul style="list-style-type: none"> <li>• Mention the requirement to supply of compressed air, if any.</li> <li>• Mention the requirement and arrangement of water supply, if any.</li> </ul>
Compatibility of parts	<ul style="list-style-type: none"> <li>• In case of accessories from make differing to the make of equipment, compatibility shall be checked and certified by the bidder.</li> </ul>
Calibration Certificates, technical manual and SOP	<ul style="list-style-type: none"> <li>• The calibration certificates shall be provided with equipment and accessories.</li> <li>• Validity of calibration certificate for all devises shall not be less than one year.</li> <li>• Technical manual and Standard Operating Procedure document shall be provided.</li> </ul>