



Vibro Concrete Plugs are an innovative hybrid of stone columns and vibro concrete columns, suitable for treating most types of fill (made ground) and particularly appropriate for use on contaminated brownfield sites.

// BASIC TECHNIQUE

Soil conditions determine whether Concrete Plugs are installed via the Top Feed or Bottom Feed construction method. Where soils and bore holes are stable the use of the Top Feed technique is possible, where as in fine grained soils the Bottom Feed installation method is required to prevent bore hole collapse.

Top Feed

In the Top Feed method a vibroflot penetrates the ground to design depth and is then fully extracted from the bore

to allow a charge of lean mix concrete to be introduced to the base of the open hole. The vibroflot is then re-inserted to compact the introduced concrete and interlock it tightly with the surrounding soil until the required size of concrete plug is achieved at the base. Finally stone aggregate is added from the surface and compacted to construct a stone column to the surface.

Bottom Feed

Using the Bottom Feed method the vibroflot is kept in



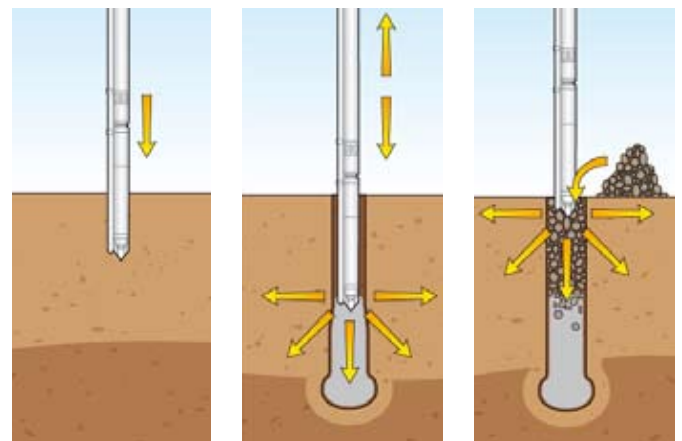
// TECHNICAL CAPABILITIES

Dimension	From	To
Practical Depth	1.5m	30m (crane method)
Diameter	0.3m	1.3m
Ground Bearing Capacity	Dependent on depth and ground conditions, up to 200kN/m ² possible	
Minimum Working Height	6m	Varies
Typical Rig Weight	22,000kg	58,000kg

place once design depth has been reached whilst a pumpable concrete mix is introduced via an attached tremie pipe in order to form the plug at the base. Stone aggregate is then introduced via the tremie pipe and compacted in stages by the vibroflot to complete the column.

// STRENGTHS

- The concrete plug prevents contaminant migration into underlying groundwaters / aquifers; a potential concern when using conventional stone columns on brownfield sites
- Bridges organic layers and seals off drainage paths for downward migration of water
- Suitable for treatment of sub-artesian groundwater conditions
- Suitable to improve most types of fill and soft alluvial soils



VIBRO CONCRETE PLUG CONSTRUCTION SEQUENCE

// FOR FURTHER INFORMATION CONTACT:

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